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EDITORIAL.

Nomenclature Gone Mad!

WHAT can be thought of the mental condition of a person who proposes to call Dover's powder: *Osulfopotaso nitropotasmicto glicirrizanipecacuánico extractopiado*, or who would express the pharmaceutical formula: Opium 40 parts, saffron 20, canella 3, cloves 3, Malaga wine 320 by the title: *Blasescroconresnétema blasicinamomosópico blasicariofilado;* or the formula: Wine 200 parts, peptone 100, hypophosphite of iron and quinine [?] 0.4, arsenite of quinine 0.02 parts, by the name: *Blasaspeptesenoluto lohipofosfiferrosoquínico mearsenitoquininado?* It can scarcely be credited, and we confess, we scarcely believed our own eyes when we read a paper contained in the *Repertorio de Farmacia* of Habana (1883, January to April), presented to and read before the Colegio de Farmaceuticos de la Habana by Ramon Botet y Jonullá, with the high-sounding title: "*Pharmaceutical Classification and Nomenclature: Historical and Critical Exposition of the same in general, and Propositions for their Radical Reform.*" *

* Clasificacion y Nomenclatura Farmacéuticas. Exposicion histórico-critica de ellas en general, y proyecto de una reforma radical sobre este asunto, por Ramon Botet y Jonullá.
(Memoir read before the Colegio de Farmacéuticos de la Habana, at its meetings of July 10th and August 14th, 1882.)

The writer begins with pointing out the "universally recognized importance of pharmaceutical classification and nomenclature," contrasts the absence of a suitable system in this department with the elaborate and indispensable systems of classification and nomenclature adopted in natural history and chemistry, and raises to the highest pitch our hope, that he has successfully filled up the gap.

The first portions of the essay, which treats of the classification of medical agents in general, we pass over in silence, as it does not interest us. Such classifications are of but little value, excepting, perhaps, to a teacher, and it is safe to assert that nearly every teacher will establish a classification of his own or at least modify that established by some one else. In this matter we will never reach a finality. But the author at last arrives at the subject of *Pharmaceutical Nomenclature*, and it is here that he carries off the palm. He wishes to establish a nomenclature which should permit the whole composition of a *galenical* preparation to be recognized by its title. He first examines the various preparations in use (and their name is legion in Spanish pharmacy) and divides them into classes, subclasses, orders, families, genera and species. We will give an example: *Hidrosacarinétema de zarzaparilla* is one of the species of *Hidrosacarétemas* which is genus of the family *Hidrosacdreos*, of the order *Solido blando ó viscoso*, of the subclass *Doble*, of the class *De Vehículo Multiple*. No less than 99 genera (it is a pity that the 100 is not full!) are quoted by name. Among the species we meet with such exceedingly euphonious and intelligible terms as: *Hidralcosacarasluto lasantonínico, Hidrogomluaskremto likermesino; Cereleonasmicto lunoximercúrico, Enomelinluasluto luniodoformico*, etc., etc. We have been very particular in spelling exactly like the original, because the prefixes, etc., all have a meaning. For instance, in the third example first (line 10, above) given: the termination *-luto* of the generic name means that we have here a solution; the *bl* at the beginning and the number expressed by the succeeding syllable *as* (= 10) mean that the quantity of the vehicle has the co-efficient 10; *aspeptesena* is equivalent to *as*=10, *pept*=peptone, *eseno*=20 of wine; all of which multiplied by 10 produce the result that the vehicle is composed of 100 grams of peptone and 200 grams of wine. We will stop the explanation here and let our readers figure out the rest.

The ingenious author, however, is not satisfied with what he seems to consider an exceedingly beautiful and translucent nomenclature. Conscious, perhaps, that life is short and conversation, either orally or in writing, involving the use of his proposed terms will be a trifle tedious, he hits upon the brilliant idea of introducing *symbols* "for simplifying the names of remedies which have a compound vehicle." Thus the several "vehículos":

Glícero, Hidro, Lactina, Vaselo, etc., etc., are to be expressed by:

Gl , Dr , Lt , V , etc., etc.,

and he gives no less than 33 such symbols.

Being anxious to bestow the boon of his invention upon mankind in general, he proposes a method of adapting the Spanish terminations which express the nature of the compound to other languages by slight changes; thus, for instance:

SPANISH TERMINATIONS	TO BE IN		
	LATIN	FRENCH	GERMAN
-micto	-mixtus	-mixte	-mikt
-cremto	-kremtus	-krémte	-kremt
-juto	-chytus	-chyte	-chyt
-luto	-lytus	-lyte	-lyt

These are probably intended as specimens illustrating the approach to the universal human language which the author sighs for at the conclusion of his memoir.

But, in all seriousness, has it come to this in pharmacy? Is pharmaceutical education to consist in committing to memory a dictionary of terms (heaven save the mark!) expressing the constituents of galenical preparations, the very existence and employment of which betrays a most lamentable condition of affairs, both in the pharmaceutical and medical professions, in any country where they *can* have existence. Are pharmaceutical colleges or societies established for such a purpose, and are the fields of research and investigation barren or exhausted? And what shall we think of a professional or scientific corporation which can indorse a paper like that alluded to above, by permitting it to go forth into the world as a portion of the "Anales del Colegio de Farmacéuticos de la Habana?"

We protest against such a misinterpretation of the function and object of pharmaceutical societies, against this corruption of pharmaceutical literature—against these Saturnalia of Pharmacy!

The British Pharmacopœia.

AFTER an interval of sixteen years, the "General Medical Council" has determined to republish the *Pharmacopœia Britannica*, and, recognizing their inability to do the work of revision in a satisfactory manner, and, at the same time, unwilling to lose the prestige of authorship, the committee have employed, for a consideration of £800, Professors Redwood, Bentley, and Attfield to do the work. The changes thus far proposed relate mainly to chemical nomenclature and notation, and to the mode of representing quantities of ingredients in preparing medicine. It is proposed to abandon the use of the old system of notation, and while the metric system will not be adopted, parts by weight and fluid parts will very probably be mentioned in addition to the system of weights and measures now employed, thus following, somewhat, the plan of our own pharmacopœia. No conclusion has as yet been arrived at with respect to the articles to be added to or omitted from the new edition.

It is to be regretted that the "General Medical Council" has not been more liberally inclined towards the pharmaceutical profession as a body, and given it an opportunity to participate in the work rather than pursue the course it has chosen to adopt. Knowing, as every one interested must, that the General Medical Council is obliged to go outside of its own organization to secure the necessary skill for revising a work which is as much the property of the pharmaceutical as of the medical profession, the course pursued in the present instance is not calculated to add to the dignity of the Council, or serve as an example of the "fair-play" in which our British cousins have so much pride.

"They do these Things Better in France!"

THE *Medical and Surgical Reporter*, referring to the allegation that some physicians in this country, through collusion with the pharmacist, share in the profits on their prescriptions, quotes the following to show that we really have much to learn in this respect from our Gallic confrères.

"According to the feuilleton of one of the recent issues of the *Gazette Hebdomadaire*, some of the very respectable physicians of Paris, not satisfied with prescribing as large a quantity of a medicament as frail human nature is capable of bearing, are careful to place at the head of the prescription, "treatment for two, three, or four months," as the case may be. The patient will be informed at the druggist's that a certain time will be required to fill out the prescription, and that it will be sent to his residence.

"The medicaments are received the next day in bottles, in boxes, in baskets; a large quantity, you will say, but, my dear friend, it comprises a four months' course of treatment, and if you are unable to continue it beyond the third day, it is not, most certainly, the fault of our genial friend the doctor, or his very efficient aid, the apothecary.

"What can be said of a prescription of this kind ordered by a physician occupying a high official position in Paris, in which a 'hematogenous wine' figures up to 180 francs; a 'ferruginous essence,' 80 francs; a 'mineral salt,' 125 francs; a skin application, 60 francs; arsenical pills, 60 francs; the grand total for the prescription reaching the respectable sum of 700 francs, or 140 dollars."

Seizure of Adulterated Teas.

ONE of the most notable results of the organization of the New York State Board of Health was the seizure in this city, not long since, of 3,600 chests of tea which were to have been sold at auction. Edward G. Love, one of the analysts of the State Board, declared that these teas "were decayed and unfit for food," and Professor Chandler, one of the members of the Board, made affidavit that "he had examined twenty-six samples of these teas and discovered that they were all mixed with mineral substances, and were an imitation of another and a better article, and if allowed to be sold, they would be distributed among small dealers, and thereby cause great injury and damage." He further declared that these teas were "colored, coated, and powdered so as to deceive the public."

Abrus Precatorius.

SINCE the Journal was made up for the press, the following information respecting *Abrus Precatorius*, described on the following page, has come to hand.

From the April number of *La Farmacia Moderna* (Naples) we learn that Dr. G. Moyne, of Naples, has also used the infusion prepared as follows: Thirty-two of the seeds were thoroughly triturated and pulverized; the powder was macerated for twenty-four hours in 500 *gm.* of cold water, and then 500 *gm.* of hot water added. After the infusion was cold, it was filtered and preserved in well-stopped, dark-colored vials. When freshly prepared, the infusion is transparent and clear; after a few days, however, it becomes opalescent. At the same time it becomes less irritating. According to Dr. Moyne, it is useless to increase the amount of jequirity, since the effects will not be so satisfactory. The best proportion is 3.20 grams of the seeds (equally on an average thirty-two in number).

Finally, the editor of the *Restaurador Farmaceutico* of Barcelona, D. Juan Texidor, states in his journal (1883, 74) that Dr. D. José Maria Alcon has used the drug in thirty-nine cases, and found that effects were only produced with an infusion made from four grams of the seeds in 500 *gm.* of boiling water. These discrepant statements are not calculated to create a great reliance upon the drug.

British Patent Medicines in Italy.—The subject of patent medicines is just now engaging the attention of the British Embassy to the Quirinal, and considerable modifications in the rule regulating their importation into Italy are likely to be introduced. The Consiglio Superiore di Sanità (the Upper Sanitary Council) of Italy has just passed a resolution regulating the importation of patent medicines into the kingdom, which is of consequence not only to the patentees more directly interested, but to a certain extent also to the English and American travelling public. A list of the foreign patent medicines admissible has been drawn up, all of which are French, with two exceptions—Holloway's ointment and Anderson's ointment for horses, a patent made by an English firm established in Florence. To this list an addendum was made, permitting the importation of a few more English patents, including Dinneford's fluid magnesia, Henry's solution of magnesia, James' horse blister, Churchill's syrups, and a few more, but excluding such well-known preparations as chlorodyne, lactopeptine, Cockle's pills, the syrups of Parrish and Fellowes, Eno's fruit salt, and other patent medicines much used by our countrymen.—*British Med. Journal.*

Abrus Precatorius and its Therapeutic Use in Ophthalmic Diseases.*

ABRUS † PRECATORIUS Willd, or Indian Liquorice ‡ (Jamaica Wild Licorice; Liane de Réglisse, etc.) is a small, woody twiner, with a long, woody, tortuous, branched root, ½ inch or more in diameter. It has slender, branched stems and a brown bark. Its leaves are alternate, shortly stalked, spreading, 2 to 6 inches long, abruptly pinnate, leaflets in about 8 to 15 closely-placed pairs, ½ to ¾ inch long, oblong, very blunt at both ends. Flowers are pale rose-tinted, small, in small clusters arranged on large tuberosities along the outer side of a stiff, curved rachis. The fruit is a pod, about 1¼ inches long, broadly oblong, shortly beaked, somewhat compressed, two-valved, with imperfect septa between the seeds. Seeds 4 to 6, globular-ovoid, about ¼ inch long (of the size of a small pea); testa hard, bright, and shining, brilliant scarlet, with a black patch at one end round the hilum; cotyledons plane-convex; no endosperm.

The plant is very common in all parts of India, where it is probably indigenous.§ Bentley and Trimen say "that it is doubtlessly indigenous" in India, and that it has probably been only introduced in other tropical countries where it is found, namely, South China, the Pacific Islands, tropical Africa, the West Indies, etc. But Dr. Moura Brazil has met with it all through the Brazilian province of Ceará, in the interior plateaus as well as along the seacost; and, while a member of the Government commission appointed to regulate the boundary between Brazil and Bolivia, he found it in the large and rich province of Matto-Grosso, between the two river-courses of the La Plata and the Amazon, in the midst of virgin forests, where the hand of the husbandman had never penetrated. Yet he adds that it *may* have been carried there by birds. This appears not unlikely, since the seeds are so very conspicuous by their color.

The seeds (also known as jumble beads, love peas, crab's eyes, prayer beads, pois d'Amérique, Paternoster-Erbsen, etc.) have been incorrectly stated by some writers to be very deleterious, two or three being, according to Herman, a fatal dose. They are, on the contrary, perfectly innocuous when eaten, and, although hard and indigestible, yet have been used as food in Egypt. In Hindu medical authors, they are recommended, when reduced to a paste, to be applied locally in sciatica, stiffness of the shoulder-joint, paralysis, and other nervous diseases. They have also been used in skin-diseases and in fistula. When eaten, they are reputed to prevent fecundity.

The root is employed in all hot climates (except China) for the same purposes as licorice. It was introduced into the Bengal Pharmacopœia of 1844 and into the Indian Pharmacopœia of 1868. Berzelius also noticed (in 1827) a sweet principle in the leaves.

The seeds have been used, according to Dr. Moura Brazil, for many years, in chronic granular conjunctivitis, in the Brazilian provinces of Ceará and Piauhy. In some portions of the former, the disease often assumes a very violent character, and the proportion of blind persons is very large. Whenever purulent ophthalmia is not carefully attended to, granulations are often formed, which are often followed by serious consequences. It is precisely in these chronic, granular cases, which have long resisted all other treatment, that the *Abrus* (or *jequirity*, as it is called in Brazil) is used with advantage. Yet, since the dose of the remedy is not always properly adjusted, and as the intensity of the artificial conjunctivitis produced by it is in proportion to the concentration of the solution, it may happen that an eye, otherwise capable of being saved, may be entirely ruined by a careless application.

Dr. Castro e Silva (of Ceará) published a small memoir, in 1867, on the use of *jequirity*, in which he draws attention to the dangers connected with its use. He, himself, employed it in the proportion of 1 part in 700 parts of water, in form of lotion, applied several times a day.

In the interior of Ceará and Piauhy, where the remedy is much abused, cases have been reported in which, after two or three applications, there appeared a very intense inflammation of the eyelids and conjunctiva, extending over the whole face, the neck, the upper part of the thorax, and sometimes even affecting the submaxillary glands.

The remedy is usually prepared in the following manner: The seeds are soaked during a few hours in boiling water, or during three or four days in cold water. When they are more or less softened, they are blanched, and the kernel reduced to a fine powder, which is macerated for twenty-four hours,* after which the liquid is filtered. The patient applies the liquid by bathing his eyes three times daily, in such a manner that it passes under the eyelids, or (if more concentrated) it may be dropped in the eye, during several consecutive days.

Immediately after the first application, the patient's eyes begin to run, and he begins to feel a burning heat and a sort of heaviness of the eyelids. On the next day, the inflammation is so intense that he can no longer open his eyes, the skin of the lids becomes shining, of a violet color, the conjunctival ecchymosis becomes more pronounced, accompanied with a more or less abundant muco-purulent discharge, and the patient complains of great pain.

Mr. Mello e Oliveiro found that if the seeds are treated with boiling water slightly acidulated with hydrochloric acid, a bright, rose-colored substance separates, which, on the addition of some 45% alcohol, changes to red, a grayish-white substance of a gummy nature being deposited. The liquid, which has a red color (after the addition of alcohol), when exposed for some time to diffused daylight, acquires, after a short time, a greenish color persisting for several days. Ether separates from it an oil, and alcohol a gummy substance which is partly soluble in water and partly in alcohol.

After some hours, the portion soluble in alcohol changes its white color to bluish-green. No alkaloidal substance could be detected in it because—as the author says—the appointments of the laboratory did not permit the execution of certain methods of extraction.† The seeds were subjected to processes employed for the detection of organic acids, and the liquid, after being filtered and concentrated in vacuo, had an acid reaction to litmus. This liquid was at first golden yellow, turning to dirty yellow when exposed to light and air. The acidity, which at first was feeble but distinct, after a while became very faint. While freshly prepared, it possessed the characteristic odor of the freshly powdered seeds, but whether the acid is of a volatile nature has not been ascertained.

Dr. Moura Brazil made experiments with all the substances isolated by Mr. Mello e Oliveira. The essential oil was found inert when applied to the conjunctiva; so

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* The colored illustration and a portion of the description are after *Bentley and Trimen's Medicinal Plants*, No. 77.

For further information on Abrus, the reader is referred to *Pharmacographia* (2d ed.), p. 188; Bengal Dispensatory, p. 297; Drury, Useful Plants of India, p. 3; Waring in *Madras Quart. Med. Jour.*, 1860, p. 61; Moodeen Sheriff, *Supplement to the Pharm. of India* (Madras, 1869), p. 17; *Pharmacop. of India*, p. 74, 446; Dalzell and Gibson, *Bombay Flora*, p. 76; Bouton, *Medicinal Plants of Mauritius*, p. 43. ROXBURGH, *Flora Ind.*, iii., 257.

† *Abrus* is g[illegible] Prosper Alpinus (1592) as the name of the plant in Egyp[illegible] e the seeds were used for necklaces. Théis derives it from [illegible], delicate.—*Bentley and Trimen.*

‡ Jamaica Wild Licorice; Liane de Réglisse (Fr.); Liane à Reglisse; Faginolo Corallino, or Semi di Corallo (Ital.); Bejuco peronilla, B. peonilla (Puerto Rico); Orozuz abro de cuentas de rosario, or Abro de cuentas (Spain).

§ In Sanskrit the plant (and its seed) is known by the name of *gunjá*, and various authorities give a large number of synonyms (over fifty) for it, which are partly taken from dialects or modern Indian languages. The seeds are also called *ratí* in Hindustani (=*raktiká*, Sanskrit), which is at the same time a name for a small weight (two and three-sixteenth grains) used by Hindu apothecaries and jewellers. The Burmese also use the seeds as weights. The plant (and its seed) is mentioned in Hindu medical works; compare U. Ch. Dutt, Hindu Materia Medica, p. 151.—ED. NEW REM.

* The original does not state in how much water, and adds "exposed to the night-dew." See page 162.—ED. N. R.

† The analytical results here detailed are confusing, and certainly of no value whatever.—ED. N. R.

also the gray and the white resinous principles. The green principle, the odor of which recalls that of the coffee-green seeds, was employed in quantities of 0.2 gm. (ab. 3 grains) in 10 gm. (ab. 160 min.) of water (see below).

Dr. Moura Brazil tried various preparations of jequirity upon rabbits, and thus ascertained the portion and quantity which produces the most severe inflammation. At first he used the seeds and each one of its parts separately in fine powder and subjected to maceration, the cotyledons having been separated from the skin and likewise the embryonic radicle and gemmule. The results differed completely. With a solution of *jequirity* containing all these parts, and being of a strength of 1 in 20, the most intense inflammation was produced in the eyes of a rabbit. This inflammation yielded to no remedy and progressed to suppuration of the eye-ball, gangrene of the lids, and inflammation of the sub-maxillary glands. On using the cotyledons alone, without embryo (radicle and gemmule), in the same dose, the inflammation was much less intense. This is analogous to what has been observed in the case of the seeds of *Jatropha Curcas* Linné, which, when employed with radicle and gemmule, produce violent emesis, while without them they produce scarcely any vomiting at all.

The dose has gradually been reduced to *four seeds* (without the testa and the radicle). In this way a mild inflammation is produced, permitting one application per day and sufficient to heal granulations in a few days. The cotyledons were reduced to fine powder, then macerated, the liquid filtered, and finally applied to the conjunctiva with a brush.

The results obtained with the green principle (see above) were so surprising that the author thinks the *jequirity* will form an important agent in ophthalmic therapeutics, inasmuch as granulations which had for years resisted all other treatment, were cured by *jequirity* in from twenty to thirty days.

This is of the greatest consequence for science and humanity, particularly for countries in the north of Europe, where ophthalmic inflammations are very common.

To repeat, the form in which Dr. Moura Brazil uses the Abrus is either a solution of 0.2 gm. (or ab. 3 grains) of the "greenish extractive" (above mentioned) in 10 gm. (160 min.) of water, or an infusion or cold macerate of the seeds (deprived of their testa, radicle and gemmule), made in the proportion of 0.5 gm. (ab. 8 grains) to 10 gm. (160 min.) of water.

The microscopic examination made by Dr. Silva e Chanjo of a recently prepared solution, and of one which was two months old, as well as an examination of the false membranes it produces, has furnished remarkable results.

In all fresh infusions of *jequirity*, Dr. Silva found large polyedric cells filled with a granular protoplasm. He considers them to be the cells of the seed itself, separated by the bruising and the maceration. Besides these cells, there were found granulations, which, under a higher power, presented themselves as round, spherical, very brilliant bodies, capable of movement either around their axis or in a forward direction. With a lower power, they looked like a fine powder. Dr. Silva considers them to be *gonidia*, or organs of non-sexual propagation.

On examining an infusion of older date, the aspect is different. Besides the powder—the *gonidia*—there are now noticed the true cells and tubes of a microscopic plant, with spores and mycelium. The spores are large, ovoid, sometimes solitary, or in groups of two, three, or more. The tubes either bear spores, or are bare and are branched. Between the spores and the tubes the above-mentioned powder (the gonidia) is noticed. The older the infusion, the better are these elements developed.

On the other hand, the microscopic examination of a false membrane (the conjunctival surface of the upper eyelid, for instance), treated with or produced by *jequirity*, has shown this to be of a true diphtheritic character. It was found to consist of an agglomeration of particles of pus, held together by a fibrous substance and covered with gonidia exactly like those noticed in the infusion of *jequirity*. On macerating the membrane in distilled water for forty-eight hours, the elements previously described were noticed to be much more developed. (For further details of the microscopic examination we must refer to the original).*

Dr. L. de Wecker, of Paris, who appears to have made similar observations on *jequirity* at about the same time as Dr. Moura Brazil, confirms the latter's statements and sums up his observations as follows :

1. There is no doubt that an infusion of *jequirity* produces a purulent ophthalmia of a croupous nature, the intensity of which can be regulated by the strength and number of applications.

2. The cornea runs no risk during the development of the "jequiritic" ophthalmia.

3. The "jequiritic" ophthalmia cures granulations *rapidly*.

Dr. Wecker also states that he has vainly tried, by a careful study of Dr. Moura Brazil's memoir, to ascertain how the "active principle of a greenish color" should be prepared. Two eminent chemists were also consulted, who declared, as might have been expected, that it was impossible to say exactly what was meant by that principle. Mr. Rabinet, at Dr. Wecker's request, prepared an extract of the seeds, and obtained a product of a deep green color, which dissolved without difficulty in water, but the solution of it produced no action whatever upon the conjunctiva. Hence Dr. Wecker fell back upon the seeds, making an infusion in the usual manner.

Dr. Wecker also remarks that the preparation which has answered best in his hands, and which he is in the habit of using, is weaker than that used by Dr. Moura Brazil, being prepared from 10 gm. (155 grains) of the decorticated and powdered seeds macerated for 24 hours in 500 gm. (17 fl. oz.) of *cold* water and filtered.

Note on the Decomposition of Iodide of Potassium by Spirit of Nitre.

BY PROF. W. M. SEARBY.

HAVING been called upon frequently to compound a prescription in which spirit of nitre, iodide of potassium and wine of colchicum were mixed together, I found that the iodide was sometimes decomposed, even after I had neutralized the spirit of nitre. In some cases the change took place so slowly that the medicine had left the store before any perceptible discoloration had occurred, though it would be very marked in a few hours; and, if the bottle had been tightly corked, an explosion would result. This led me to investigate the conditions under which the decompositions referred to take place. While my conclusions are, for the most part, familiar to pharmacists, they may not be so to every one. They are as follows:

First.—No decomposition will occur if the spirit of nitre is fresh and good.

Second.—If the spirit of nitre be acid, the decomposition is instantaneous.

Third.—If, after having become acid, it has again been neutralized by an alkali, it will not of itself decompose the iodide.

Fourth.—After it has been thus neutralized, a very small amount of acidity from another source will produce the decomposition.

Fifth.—That nitrous acid in the spirit of nitre is the disturbing cause.

In preparing the above-mentioned prescription, the iodide may be mixed with the neutralized spirit of nitre, or with the wine, even though the latter be slightly acid, and no iodine will be liberated in either case ; but if these two solutions be mixed, the decomposition will take place.

When acid spirit of nitre has been neutralized by solution of potassa, potassium nitrite is formed, with perhaps a little potassium acetate. The subsequent addition of a small quantity of acetic, citric, or tartaric acid at once decomposes the nitrite, setting free nitrous acid, which, if potassium iodide be present, at once liberates the iodine.

* *Annales d'Oculistique*, Bruxelles, December, 1882.

That this is the *modus operandi* in the case of the prescription referred to, is shown by the fact that citric acid, which will not decompose the iodide alone, will do so in the presence of potassium nitrite. In like manner, dilute acetic acid does not immediately set free the iodine, though it does after standing for some hours. Yet in the presence of the nitrite, the decomposition is instantaneous.

I conclude, therefore, that the phenomena observed occur in this way: In the oxidation of spirit of nitre, nitrous acid is formed. Neutralizing this with liquor potassæ, produces potassium nitrite. This nitrite is decomposed by the acetic or tartaric acid in the wine; and the nitrous acid again set free, attacks the iodide and liberates the iodine. If the wine were not at all acid, these changes would not occur, but as sherry is usually slightly sour, they are likely to happen, unless the wine, as well as the spirit of nitre, is neutralized.

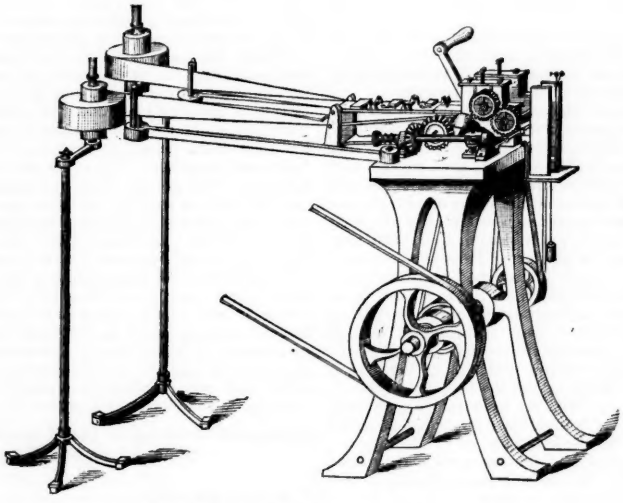
In those instances in which the reaction was not apparent until some time afterwards, I infer that the acid in the wine was too feeble to rapidly decompose the nitrite, though strong enough to effect the change slowly. The bursting of the bottle was probably occasioned by the liberation of nitrous acid, which was perceptible by its odor and the color of its fumes. Other nitrogen compounds may have been formed, a very dark deposit suggesting nitrogen iodide as a possible accompaniment.

The foregoing deductions will be made clear by the following reactions, potassium iodide and solution of starch being used as reagents.

1. Good spirit of nitre.—No change.
2. Acid spirit of nitre.—Violet color.
3. Acid spirit of nitre neutralized with KHO. — No change.
4. Citric acid.—No change.
5. Dilute acetic acid.--No change at first, afterwards violet color.
6. Dilute acetic acid and potassium nitrite.—Instantaneou s violet color.
7. Citric acid and potassium nitrite.—Instantaneous violet color.
8. Acid spirit of nitre, afterwards neutralized and acetic acid added.--Instantaneous violet color.
9. Acid spirit of nitre, neutralized and citric acid added. —Instantaneous violet color.

Capsule-Folding Machine with Printing Apparatus.

THE apparatus of which we give a sketch below, but the details of which cannot well be shown except by additional diagrams, is designed for the manufacture of small folding capsules, or paper-bags for powders, etc., such as are used commonly in drug stores, chemical warehouses, etc. It may be driven by steam or by hand-power, and can turn out between one hundred thousand and one hundred and twenty thousand capsules or bags per day, which can be removed in packages of two hundred and fifty as soon as a bell-signal is given by the apparatus. A special arrangement prints the firm name (or any other desired words) upon each package while being folded. The apparatus can be adjusted so as to furnish capsules of any desired length and width. One workman (a girl) is sufficient to run the machine, which occupies a space of about seven square feet, and is three feet eleven inches high. The manufacturer is Oscar Linke, Wettiner Strasse 10, I, Dresden, Saxony.



Linke's Machine for Folding Powder-Papers.

Note on the Manufacture of Phosphoric Acid as recommended by Prof. W. T. Wenzell.*

BY PROF. E. W. RUNYON.

AT the last meeting of the American Pharmaceutical Association, Professor Wenzell presented a paper† containing the observations and experiments he had made in the preparing of phosphoric acid by aërial oxidation. From the published reports of that meeting, it seems that but little discussion took place on the subject. It was spoken of as a very old process, and one not likely to be of practical importance. The writer having made several thousand pounds of phosphoric acid, direct from phosphorus, and having for six or seven years followed the valuable suggestions of Professor Markoe in his paper to the American Pharmaceutical Association, in 1875, was very much interested in the paper of Professor Wenzell on this subject. At his request, some weeks ago, I entered upon a series of experiments, to determine the practicability of the pro-

* From the Proceedings of the California Pharm. Soc. and College of Pharmacy, 1883, p. 30.

† See NEW REM., 1883, 304.

cess for the manufacture of phosphoric acid in large quantities.

For this purpose I made use of a square, stoneware crystallizing pan, such as are made by R. C. Remmey & Co., Philadelphia, which holds five gallons. For the bottom of this I had made a vulcanite diaphragm resting on supports of the same material; the slats of this tray were one inch wide and placed about an eighth of an inch apart. The sticks of phosphorus rest in the divisions so as to prevent their rolling against each other, should the apparatus be jarred. A porous cover was made of plaster of Paris, and one-half or two inches thick, and sufficiently large to extend about one inch over the four sides of the crystallizing pan. This plaster cast was quite thick and heavy, necessarily so, on account of the large size of the pan—17×21 inches. It required several days for the plaster-cover to dry with the temperature of the drying closet at 130° Fah. The cover was then levelled off by passing it over medium coarse sand-paper, tacked on a table. The top edges of the stoneware pan were perfectly levelled, by means of a sheet iron plate, and fine emery, with a little water. It is necessary for the cover to fit perfectly and evenly on all sides of the pan, and for this reason, both cover and pan should be ground.

By means of an auger or bit, an inch hole is bored in the plaster cover, and a cork inserted, through which a thermometer is passed, to record the temperature during the process of oxidation. The apparatus is now complete.

The vulcanite shelf was placed in the bottom of the pan, and distilled water was poured into the pan, until the shelf, or diaphragm, was barely immersed. The one-eighth inch spaces between the slats of the shelf were then covered with sticks of phosphorus, and the surface of the water brought up to about half the diameter of the sticks of phosphorus. If it be found that there is too much water after the shelf has been covered, it can be easily siphoned off, with rubber tubing. The cover of plaster of Paris is now placed on, and the apparatus is to be undisturbed for two or three days. At the expiration of that time, the cover can be removed for a few moments, without danger of the phosphorus taking fire, and it will be noticed, as Professor Wenzell states, that the acid water has increased in bulk. By means of glass and rubber tubes, sufficient of the acid is drawn off, to again partially expose the oxidized sticks.

The cover was replaced, and the operation was allowed to continue for three or four more days, when a second portion was drawn off for the last time.

The time for the complete oxidation was about thirteen days, and the time and attention it required during that period, did not exceed as many minutes.

The most important and practical feature in the making of phosphoric acid by this process over all the other processes which I have used, is the ready removal of the arsenic with which commercial phosphorus is universally contaminated. Professor Markoe, and others, who have made large quantities of phosphoric acid, give no other way of removing arsenic from phosphoric acid, other than by passing sulphuretted hydrogen gas through the diluted acid; and my experience has been, that it is exceedingly troublesome to thoroughly remove it in this way; the small percentage present (one-sixth to one-quarter of one per cent) seems hardly worth so much trouble. Even after standing a week or more, traces of arsenic sulphide will be precipitated along with some sulphur. Wittstein, in his valuable little book, says: "If after saturating with the gas, and allowing the solution to stand some days, a yellow deposit is formed, it must be filtered. The acid cannot yet be considered pure, but must again be treated with sulphuretted hydrogen, and is only to be looked on as pure when this treatment no longer causes a precipitate of sulphuret of arsenic. To arrive at this point I found it necessary to treat the phosphoric acid four times with sulphuretted hydrogen."

Our Pharmacopœia calls for a preparation free from any trace of arsenic. Now, by Professor Wenzell's process, all the arsenic is separated (owing to the presence of phosphorous acid) by simply heating the acid solution as it comes from the aërial oxidation pan to a given temperature for a short time. Professor Wenzell states that at a temperature of 160° C., the separation of the arsenic as a brownish-black substance is complete. In the manufacture of several hundred pounds by this process, I have not found this to be the case; true, at 160° C., the liquid was of a dirty black color, of garlicky odor, owing to the reduction of the arsenic to the metallic state; but when diluted and filtered, it still showed traces of arsenic with hydrogen sulphide.

I find it necessary to heat the acid to 190° C. and 200° C. or to the temperature at which hydrogen phosphide commences to be given off with slight explosions, and keep it a little below this (190° C.) for thirty minutes or more. When at this degree of concentration and temperature, an exceedingly penetrating, disagreeable garlic odor is given off, and the operation should be conducted in a fume chamber.

The acid solution now has a specific gravity of 1.75, equal to about eighty-nine per cent H_3PO_4. It is diluted with an equal bulk of distilled water, filtered through double, white filtering paper, and then oxidized with nitric acid. The acid solution has a strong, disagreeable odor of hydrogen phosphide, which is entirely removed during the oxidation of the phosphorous acid.

Finally, the only deviation the writer has made in the manipulation given by Professor Wenzell is that of carrying the temperature to 190° to 200° Centigrade, or until hydrogen phosphide begins to be given off. One of the concomitants of that temperature is the decomposition of a portion of the phosphorous acid into phosphoric acid and hydrogen phosphide. There are other interesting features relating to this process, both in respect to time, economy, and material, in which it has given better satisfaction than some other processes employed by the writer, and to which he may refer at some future time. In oxidizing with nitric acid, care should be taken to have a sufficiently large dish, and not to have the temperature of the phosphoric acid solution above 125° C. on the addition of the first portions of the nitric acid, else a portion of the acid will be lost by the sudden disengagement of the nitric oxide. The reaction commences at 118° to 120° C., and the temperature gradually rises to 140° C. The operation of oxidizing with nitric acid was reversed by pouring the phosphoric acid solution into the heated nitric acid, but without success.

Compound Solution of the Hypophosphites of Iron, Soda, Lime, and Magnesia.

BY JOHN CALVERT.*

HAVING had my attention called to an article describing a process for this preparation by Adam Gibson, which is copied into the April number (1882) of NEW REM. from the *Pharmaceutical Journal* of January 21st, I was so much pleased with it that I at once set about making a trial lot, and, at the request of several physicians, now keep the solution in stock. It has been found very useful in medical practice, and, as a pharmaceutical preparation, leaves nothing to be desired, as it is beautifully clear, and quite stable.

The materials employed in the process devised by Mr. Gibson are calcium hypophosphite, hypophosphorous acid of thirty per cent, ferrous sulphate, sodium sulphate, magnesium sulphate, and water. I refer you to the article for the details of the process. The only modification which it has undergone in my hands is in the formation of the hypophosphorous acid in the preparation itself, by the employment of an additional quantity of calcium hypophosphite and oxalic acid in proper proportions to liberate the hyphosphorous acid required by the formula. As thus modified, the materials are within the reach of all druggists, and the solution can be made in a few minutes.

In the following working formula, I have converted the English avoirdupois ounces and grains into Troy ounces and grains:

Dissolve 11 ozs. and 80 grs. of calcium hypophosphite in 5 pints of nearly boiling water.

* From Proc. of Calif. Pharm. Soc. & Coll. Pharm., 1883.

Add 1½ ozs. of oxalic acid, stir for a minute, and add
2 ozs. and 260 grs. of ferrous sulphate,
5 ozs. and 120 grs. of sodium sulphate,
1 oz. and 420 grs. of magnesium sulphate.

Agitate for two or three minutes, allow the mixture to become cold, filter into a bottle marked one hundred fluid ounces, and wash the oxalate and sulphate of calcium which remain on the filter with water until one hundred fluid ounces of liquid are obtained.

The salts should be in coarse powder.

Each fluid drachm of the solution contains:

		Troy grains.
Ferrous hypophosphite	$Fe(PH_2O_2)_2.6H_2O$	1.5
Calcium "	$Ca(PH_2O_2)_2$	1.8
Sodium "	$NaPH_2O_2.H_2O$	1.8
Magnesium "	$Mg(PH_2O_2)_2.6H_2O$	1.
	mixed salts,	6.1
Hypophosphorous acid, pure, H_3PO_2	grains,	1.5

The author says: During a few days after its preparation, it deposits a minute quantity of calcium sulphate, from which, however, it may be wholly freed by decantation or filtration.

It is a clear and permanent solution, and may be mixed with simple syrup, claret, or glycerin in any proportion, but the salts are gradually deposited from mixtures containing an appreciable percentage of alcohol.

FOR FIVE PINTS OF THE SOLUTION.

Boiling water	4 pints.
Calcium hypophosphite	9¾ ozs. avoir.
Oxalic acid	1 1/16 " "
Ferrous sulphate	2¼ " "
Sodium sulphate	4 5/8 " "
Magnesium sulphate	1 5/8 " "
Water to make five pints.	

Medicated Gelatin Dressings.

DR. PICK has introduced a new form of application in skin diseases which permits the examination of the diseased surface without removing the dressing. It consists in covering the surface with a solution of gelatin in which the remedial agent has been dissolved or suspended. This solution is painted over the part, and when dry, brushed over with glycerin, which causes it to become flexible and prevents it from cracking or peeling off. The patient may remove the coating at any time by washing or bathing in water, after which it may be applied anew. The proper proportions for the dressing are as follows:

Gelatin..... 50 parts
Water..... 100 "

Dissolve on the water-bath, and add, under constant stirring, of the

Drug (f. i. chrysarobin, pyrogallic acid, naphthol, carbolic or salicylic acid, etc., etc.)....q. s.

—*Wien. Med. Bl.* and *Pharm. Centralhalle.*

Chemically Pure Filtering Paper.

FOR a number of years past the firm of Schleicher & Schüll, of Düren (Rhenish Prussia), has placed on the market various grades of filtering papers, among them one which is intended for use in chemical analysis, and which, for purity and low percentage of inorganic constituents, even surpasses the formerly celebrated Swedish filtering paper of Munktell. Quite recently this firm has introduced a new feature of great importance. It now furnishes these "pure" filters not only cut round, in different sizes, as heretofore, but it exhausts them previously with hydrochloric and hydrofluoric acid, in order to eliminate alkalies and silica. This operation had to be heretofore undertaken by each analyst himself when using the filters for quantitative work. Now he is saved much trouble and time by purchasing the filters pure. Prof. Fresenius and Dr. Caspary have examined the washed filters and have found that the ash residue, after ignition, amounts, in a filter of

5½ cm., only to 0.00004 gm.

and so in proportion in larger sizes.

The prices are moderate. Each package is provided with a round trade-mark bearing the inscription "Charta Filtratoria Acido Hydrochlorico et Fluorico Extracta. C. Schleicher & Schüll. No. 589."

Pharmaceutical Steam Apparatus.

PROBABLY most of our readers are familiar, at least from books, with the form and construction of the pharmaceutical "factotum," one form of which is illustrated by the annexed cut. A recent improvement made by E. A. Lentz, of Berlin, permits the rapid insertion or removal of a digester *h*, without necessitating a packing (or a washer) and thumb-screws or clamps. The copper-boiler *A* is closed above by a bronze top-plate, fastened to it by the iron flange *b*. In the top-plate are several openings for the insertion of digesters, which, however, do not project directly into the steam-chamber, but into separate small chambers firmly connected with the top-plate. The digesters have a smoothly turned shoulder *f*, and are provided with four projecting points, which are passed through corresponding openings in the top-plate. By a lateral push, these points pass into a circular groove *n* under the rim, the inner surface of which is so shaped that the projecting points of the digester become more and more tightly wedged the more the vessel is turned. At the same time, the shoulder closes the openings in the top-plate hermetically. By means of a small valve *i*, steam is then admitted to the space between digester and small chamber. This arrangement, therefore, permits the use of steam-pressure in each single compartment, and also the rapid removal or reinsertion of any one of the digesters without interfering with the others. At the same time steam may be supplied to the boiler or evaporator *k*.—*Dingler's Polyt. Journ.*, 246, 374.

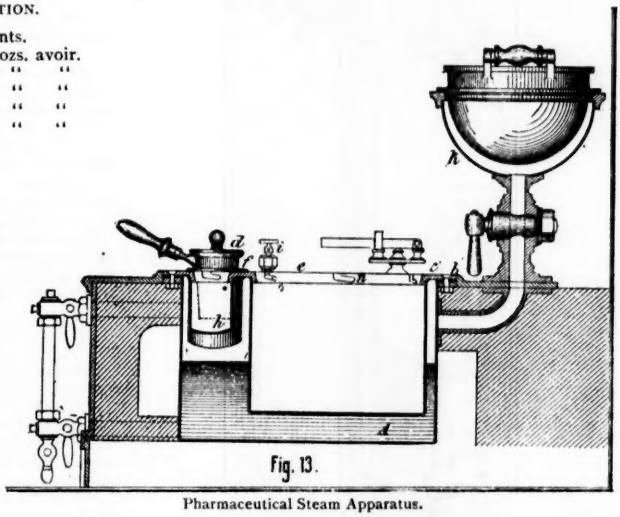


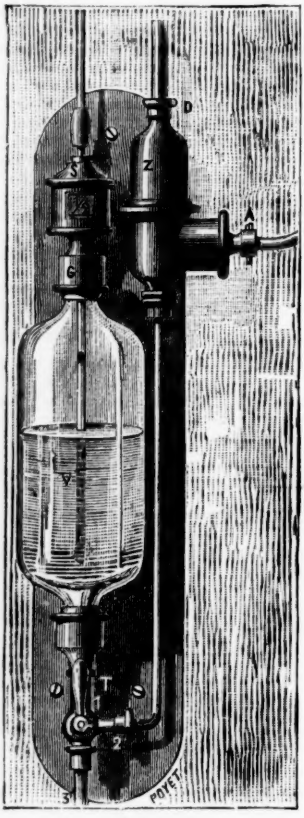
Fig. 13.

Pharmaceutical Steam Apparatus.

Fourteen Druggists were arrested in Washington D. C., on the 13th of April for employing clerks that were not registered.

Monroy's Liquid Measure.

In the retail trade, liquids are usually measured out to customers in tin measures. This is a very simple and expeditious method, but one that has its disadvantages. In the first place, it is not without danger where the measurement of inflammable liquids, such as oils, petroleum, varnish, alcohol, etc., is concerned; and, in the second place, it is accompanied by losses due to spilling and evaporation, and by the escape of bad odors in some cases. To obviate such disadvantages, various apparatus have been devised, and one of the simplest and most ingenious of these is the one invented by Mr. Monroy, which we illustrate herewith.



Monroy's Liquid Measure.

The apparatus consists of a glass reservoir, V, at the upper part of which are arranged two concentric tubes, and, at the lower part, a three-way cock, T. Of the latter, way 1 communicates with the reservoir, V; way 2 with the pipe, A, through which the liquid enters; and way 3 with the discharge pipe. Beneath the cap, G, there are two concentric tubes which reach nearly to the bottom of the reservoir, V. The outer of these is fixed and contains a number of apertures distributed over its circumference at properly regulated heights. The inner tube, which is movable, is also perforated, but its apertures are distributed in a different manner. The cylinder, S, which is manœuvered by hand, allows the inner tube to be revolved, and brings to the front of the apparatus numbers which in the one liter measure, for example, correspond to 1, ½, ¼ and ⅓ liter.

For each of these four positions there is a coincidence between one of the apertures in the fixed tube and one of the corresponding apertures in the movable one, but for a single one at a time. The inner tube, which is open at each end, communicates freely with the atmosphere. In a position of rest, the cock, T, closes orifice 2 and establishes a communication between 1 and 3, and the reservoir, V, is then empty.

When a measurement is to be made, the figure answering to the quantity is brought to the front, and the cock, T, is turned in such a way as to close 3 and open a communication between 1 and 2. The liquid from the storage reservoir then flows in through A, and enters the vessel, V, which it fills until the level of the liquid reaches a point where the corresponding apertures of the two concentric tubes are opposite each other. At this moment, the liquid closes these two apertures, the air above the liquid in the vessel, V, can no longer escape, the pressure that it exerts stops the flow, the level remains stationery, and the liquid is gauged. The cock is then turned so as to bring it to its first position. This closes 2 and puts 1 in communication with 3, and the liquid therefore flows out beneath into the receptacle placed there to receive it. The quantity that enters the vessel, V, at each maneuver depends upon the height of the two corresponding apertures, and this is varied by revolving the inner tube, which has been regulated very accurately at the time of construction. The rapidity with which the measuring may be effected depends upon the quantity and degree of fluidity of the liquid to be measured, and upon the dimensions of the orifices through which it flows. The storage reservoir should be placed at least as high as the orifice, A, but it may, without inconvenience, be placed several meters above it, owing to the fact that there is arranged in Z a float that shuts off the entrance of the liquid into V, through the cock, T, as soon as the pressure of the air tends to become sufficient to cause the escape of the liquid through the concentric tubes. In this case, it is necessary to take care to provide the orifice, D, with a vertical pipe whose height shall exceed that of the reservoir by about ten centimeters.

The normal type of this apparatus is designed for measuring quantities up to a liter, but there are other sizes made that are capable of measuring from 10 to 20 liters.—*Scient. Am. Suppl.* from *La Nature.*

New Chemicals.

The last commercial report of E. Merck, of Darmstadt, contains, among others, the following new chemicals:

Arsenate of Aconitine.—Soluble in water and in alcohol.

Adonidine, a glucoside from Adonis vernalis. An amorphous and odorless powder of very bitter taste. Soluble in alcohol, very slightly so in ether or in water. It has lately been used as a substitute for digitaline, being said to have the same kind of physiological effect, only stronger, and not cumulative. The dose is uncertain. In frogs, the toxic dose is said to be 0.1 to 0.15 milligrams.

Agaricine.—This is an old remedy brought forward again in a new form. White agaric has been used in ancient times already against hectic night-sweats. The dose of agaricine is 0.005—0.01 gm. (1/12 to 1/6 grain). Like the white agaric itself, it produces at same time diarrhœa.

Caffeine Sodio-Benzoate (Caffeinum Natro-benzoicum *Caffeine Sodio-Cinnamate* (Caffeinum Natro-cinnamylicum). *Caffeine Sodio-Salicylate* (Caffeinum Natro-salicylicum).—These salts permit the subcutaneous employment of caffeine. They were first proposed by Tanret. They are prepared in equivalent proportions;

the sodio-benzoate	of caffeine contains 50 %	of caffeine
the sodio-cinnamate	" " " 62.5%	
the sodio-salicylate	" " " 62.5%	

5 grains of pure caffeine are therefore contained in 10 grains of the first-named salt and in 8 grains of each of the last-named salts.

All three salts are soluble in two parts of boiling water, and remain in solution on cooling and shaking, even though the temperature be lowered to 0° C.

Boroglyceride of Calcium and Sodium (Calcium-Glycerin boricum; Natrium-Glycerin boricum). See NEW REM., 1882, 346. Both of these substances have been recommended as strong antiseptics to replace carbolic acid, and also for the preservation of foods. They are in form of a colorless or faintly colored glass, and are very soluble in water (in about 1 part).

Cocaine Hydrochlorate. While pure cocaine is difficultly soluble in water, this salt is soluble in all proportions.

Codeine Phosphate. The difficult solubility of the usual salts of codeine is an obstacle to their hypodermic use. The phosphate, which requires only four parts of water, does not suffer from this drawback. 100 parts of it contain 70 parts of codeine.

Iodum Albuminatum (Albuminated Iodine, or Iodide of albumen), a compound insoluble in water, intended for internal use, like iodoform.

Nitroglycerin Tablets, containing $\frac{1}{100}$ grain of nitroglycerin.

Paraldehyde, lately introduced as an anæsthetic. It is a colorless liquid, convertible into a crystalline mass below +10° C. (50° F.), boils at 124° C. (255.2° F.) and is easily soluble in cold water.

Phloroglucin ($C_6H_3(HO)_3$), a tri-valent phenol, or trioxybenzol. Among other purposes it serves as a reagent for lignin (wood-fibre), to which it imparts a reddish-violet color in presence of hydrochloric acid. This reaction is very delicate.

Physostigmine, pure crystallized. The pure alkaloid has now been also obtained in a crystalline form. It forms a crystalline powder (the crystals are probably rhombic), which soon turns red on exposure to light and air. It is not much soluble in water; the solution soon turns reddish, and is dark-red after a few hours.

Trichlorophenol $C_6H_2Cl_3(HO)$ is recommended as a powerful antiseptic, and has been found of value also as a deodorizer in gangrenous wounds.

[Most of the above new drugs have been described or explained in our journal immediately after the first accounts of their introduction had reached us.—ED. N. R.]

New Antiseptics and Antipyretics.

IN the expectation that a combination of the valuable antipyretic properties of quinoline (chinoline) with any of the more powerful antiseptics would enrich the medical armamentarium, by the discovery of useful compounds, Mr. K. Hock, of Berne, conducted a series of experiments, of which we give a brief abstract:—

If phenol (carbolic acid) and quinoline are brought together in proper proportions, a liquid results from which no definite compound, however, can be crystallized. Better results are obtained by using dihydroxyl-benzols [that is, such derivatives of benzol in which *two* hydrogens are replaced by two hydroxyls; in phenol, only *one* such hydrogen is replaced]. On melting together one molecule of resorcin and 2 molecules of quinoline on the water-bath and allowing to cool, the product is a very consistent mass of a crystalline structure, which may be purified by often repeated washing and recrystallization from absolute alcohol. The same compound may also be prepared by dissolving quinoline and resorcin in diluted hydrochloric acid, then adding bicarbonate of sodium and recrystallizing.

Quinoline-resorcin has a bitter, somewhat sharp taste, melts at 102° C. (uncorrected), is but little soluble in water (1 in 400), easily so in alcohol, ether and chloroform. It is insoluble in petroleum ether. If the alcoholic solution be mixed with water sufficient to produce a permanent cloudiness, the compound separates after a short time in slender, silvery scales. On slow evaporation of the alcoholic solution, it separates in small white warts. The combination is not a very intimate one, for, on being boiled with water, quinoline escapes abundantly, while resorcin enters in solution. It then scarcely shows an alkaline reaction, but is wholly soluble in diluted hydrochloric acid. If this solution be shaken with ether, the latter abstracts resorcin, while quinoline hydrochlorate remains in the aqueous solution. In a similar manner the compound is also split by other acids and alkalies, so that it may be regarded as a salt in which resorcin plays the part of an acid.

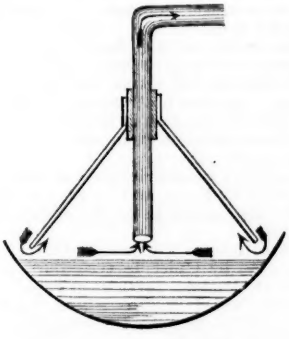
The author also prepared a hydroquinone-resorcin, which has properties analogous to the former.

Both of these compounds have antipyretic and antiseptic properties in a high degree. They are being tested at present in the public hospital at Berne.—*Ber. d. Deutsch. Chem. Ges.*, 1883, 885.

In the same journal, p. 881, Mr. O. Rhoussopoulos reports having obtained a compound of quinoline and chloral, which (though not so stated by the author), appears to us to be likely to possess similar properties as the compounds mentioned in the former paper.

On mixing equal molecules of quinoline and chloral hydrate, heat is developed, and after a short time, a white, butter-like mass separates, which is insoluble in nearly all solvents, and cannot be recrystallyzed. When heated with water it apparently dissolves, but this is accompanied by decomposition, chloral and quinoline vapor being given off. The same splitting up is produced by alkalies or by distillation.

A better result is obtained if equal molecules of chloral hydrate and quinoline, each dissolved in a suitable liquid, f. i., ether, be brought together. In this case the butter-like white (or reddish, if the solvent was not quite pure) body separates after one or two hours, in very small quantity. After filtration, and on evaporating the ether, white groups of crystals resembling wavellite separate. These are suspended in water to purify them from any adhering hydrochlorate of quinoline, and then recrystallized from benzol. According to the solvent used and the degree of concentration, the crystals have a different shape. Alcohol decomposes the compound.



To Hasten Evaporation.

H. VOGEL describes an arrangement in the *Repert. d. Anal. Chem.*, which is illustrated in the accompanying cut.

A funnel with rather wide neck, and from which the exit-tube has been cut off, is fitted, by means of a perforated cork, with a tube, bent at right angles, which is connected with an aspirator or filter pump. This arrangement causes the aspirated air, instead of following the directions of the dotted arrows, to pass over the surface of the liquid, and to enter the orifice of the tube (which is in one plane with the edge of the funnel) saturated with vapor.

Removal of the Odor of Musk and of Iodoform.—One of the latest methods to remove the odor of musk or of iodoform from utensils is that proposed by Rieaux in Lyon—namely, to impregnate a handful of sawdust with carbolic acid, and to scour the utensils with this. They are afterward to be washed and rinsed with water.

[ORIGINAL COMMUNICATION.]

Historical Notes on Arsenic and its Principal Combinations.

BY PROF. JAMES F. BABCOCK, OF BOSTON.

(Concluded from page 98.)

ARSENIC IODIDE.—This compound was first studied by Ruhland, in 1814.*

Donovan of Dublin, in 1839, prescribed a solution of mercuric iodide in combination with arsenic iodide—which in pharmacy has been called *Donovan's solution*.

ARSENIOUS OXIDE.—This oxide, commonly called *white arsenic* or *arsenious acid*, has already been considered in regard to its early history, and it remains only to note that the combinations of arsenious acid with the metals were first thoroughly studied by Scheele. In 1778, he announced a *Method of Preparing a New Green Color*†—afterwards known as *Scheele's green*—the arsenite of copper.

In 1786, Fowler of London introduced into medical practice a solution of arsenious oxide in caustic potassa—which has since borne the name of *Fowler's solution*.

The aceto-arsenite of copper or Schweinfurth green was discovered by Rusz and Sattler, in 1814, at Schweinfurth. Its mode of preparation was studied by Liebig, in 1823.‡

The use of ferric hydrate as an antidote to poisoning by arsenic was pointed out by Bunsen and Berthold, in 1834.§

Arsenious oxide was proposed as a reducing agent in chlorometric analysis by Gay-Lussac, in 1835.‖

ARSENIC ACID.—The combination of this acid with potassium was obtained by Macquer, in 1746. He prepared it by crystallizing a solution of the residue produced by heating arsenious oxide with nitre. It was called *arsenical neutral salt of Macquer*.¶

The uncombined acid was first prepared by Scheele, in 1775, and described by him in a paper entitled: *Om Arsenik och dess Syra*. He obtained it by heating three parts of arsenious oxide with seven of hydrochloric acid, and three of nitric acid, evaporating to dryness, and heating the residue to dull redness. Scheele investigated the combinations of this acid with the metals then known.**

A comparison of the phosphates and arseniates of the alkalies led Mitscherlich to the discovery of the law of isomorphism. His first observations were laid before the Berlin Academy of Sciences, in 1819.††

The polybasic character of arsenic acid was discovered by Graham, in 1833.‡‡

Arsenic acid as a commercial product was first prepared on a large scale by Kopp, who in 1853 suggested it as a substitute for tartaric acid in the white discharge used with Turkey-red.§§

ARSENDIMETHYL OR CACODYL.—This body was discovered in 1760 by Cadet de Gassicourt, a pharmacist attached to the Hôtel des Invalides at Paris.

In a paper entitled *Histoire d'une liqueur fumante, tirée de l'arsenic*, he gives the following description of his process:

"I take two ounces of arsenic (*arsenious oxide*), which I reduce to a very fine powder in a marble mortar, and to this I add two ounces of well-prepared foliated earth of tartar (*potassium acetate*). I inclose this mixture in a well-luted retort, which I place in a small reverberatory furnace. I gradually heat the retort to which is attached a receiver. There soon comes from the retort a slightly colored liquid which has a most penetrating garlic odor; afterwards a liquid of a reddish-brown color distils over, which fills the receiver with a thick cloud."*

This compound was at first called *Cadet's fuming arsenical liquid*, but Thenard, who investigated it in 1804, gave it the name of *acetite oleo-arsenical*.†

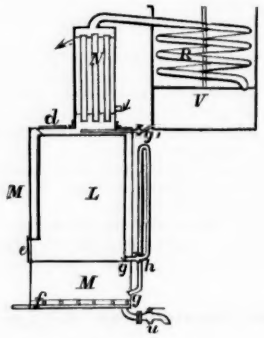
Berzelius gave it the name of cacodyl (κακώδης, bad-smelling).

An exact knowledge of this and other arsenical methyl compounds is due to Bunsen. His researches were carried on for a series of years (1837–1843) under circumstances of considerable danger. In 1841, while analyzing the cyanide of cacodyl, the tube containing this dangerous compound exploded, and injured one of his eyes, while the poisonous nature of the vapor which he inhaled caused a severe sickness in which for weeks he lay between life and death.‡

Bunsen showed that cacodyl and all its derivatives contain a radical which, in its chemical relations, shows striking analogies with a metal.

This was the second instance of the isolation of a radical, the separation of cyanogen by Gay Lussac being the first.§

The suggestion that cacodyl should be regarded as arsendimethyl was due to Kolbe,‖ while the full explanation of the relations of the cacodyl compounds was given by Baeyer in 1858.



Extraction Apparatus.

WHILE the general principle of the different continuous extraction apparatuses is the same, it is nevertheless of advantage to become acquainted with the different forms proposed, inasmuch as the choice of the particular construction desired may depend on the special purposes for which it is to be used, or on the situation in which it is to be erected, or on the scale on which the extraction is to be carried on, or other details.

Among the more simple forms of extractors is that recently patented by Josef Merz, of Tarnow (Austria). This consists of an outer and an inner boiler *M* and *L* heated by a steam-coil *f*, and provided with a man-hole *d* for introducing the substance to be extracted. It is surmounted by an upright condenser *N*, which is connected with an ordinary worm *R*. The vapors of the volatile menstruum pass up in the space between the outer (*M*) and inner (*L*) boiler, warming the latter at the same time, are condensed in *N*, and flow back on the substance in the extractor. Any vapor not condensed in *N* passes over into the worm, where it is completely condensed, and flows back into the space between the boilers, so that it may, at the end of the operation, be drawn off at *e*. The liquid percolating through the mass in *L* must rise to the level of the siphon-tube *g* before any of it can run off into the bottom

CORRECTION: On page 131, near bottom, read "Schroeder . . . (1649)," instead of "1694."

* Schweigger's Jour., vol. xi., 140.

†Vetensk. Acad. Hand., 1778. Scheele's Chemical Essays. London, 1786.

‡ Ann. Chim. et Phys., vol. xxiii., 412.

§ Das Eisenoxyd ein Gegengift der arsenigen Säure. Göttingen, 1834.

‖ Ann. Chim. et Phys., vol. lx., 225.

¶ Mém. Paris, 1746.

** Ventensk. Acad. Handl., 1775. Scheele's Chemical Essays. London, 1786.

†† Ann. Chim. et Phys., vol. xlv.

‡‡ Phil. Trans., 1833.

§§ Hofmann's Exhibition Report, 1862, 126.

* Mem. des savants étrangers, iii., 635.

† Ann. de Chim., vol. liii., 54.

‡ Nature, vol. xxiii., p. 597.

§ Ann. d. Chem. u. Phar., xxiv., 271; xxvii., 148; xxxi., 175; xxxvii., 1; xlii., 14; xlvi., 1.

‖ Handwörterb., iii., 442; iv., 922.

¶ Ann. d. Chem. u. Phar., cvii., 257.

compartment, where the extract collects, and from which the latter is finally withdrawn by the faucet *u*. The siphon is intended to prevent the passage of any of the vapor upwards through the mass, and thereby impeding exhaustion.

Artificial Atropine.

It has long been known that atropine is split up by boiling solution of baryta into a basic substance *tropine* and into *tropic acid*. For a number of years past, the constitution of these bodies has engaged the attention of several chemists, among them Prof. Ladenburg of Kiel, who has contributed the most important new facts. Up to the present time, the attempts to recombine tropine and tropic acid into atropine had been unsuccessful, but at last they have been crowned by success. Ladenburg found that tropine and tropic acid combined to a regular salt: tropate of tropine, which was, however, almost devoid, even in ten-per-cent solution, of any action on the pupil of the eye. It then occurred to him to act upon the salt with substances which have the property of withdrawing water, among which the most active, for the special purpose in view, was found to be diluted hydrochloric acid. Pure tropate of tropine was dissolved in fifteen to twenty parts of water, mixed with a few drops of diluted hydrochloric acid, evaporated on the water-bath to dryness, again dissolved in water, acidulated and evaporated, and this process repeated very frequently during several days. Finally, the residue was again dissolved in water, almost completely neutralized with very dilute solution of carbonate of potassium, an oily substance (tropid) which had separated filtered off, and the filtrate precipitated by a twenty-per-cent solution of carbonate or potassium. The residue, which at first was oily, soon became crystalline. The crystals were pressed, dissolved in a little alcohol, and the solution poured in five times its volume of water, whereupon fine-shining needles separated, after a short time.

These needles proved to be *pure atropine*, having all the physical, chemical, and physiological properties of the latter.

Tropic acid, one of the decomposition products of atropine, has already been prepared synthetically by Ladenburg (starting from acetophenon), and also by Spiegel. It now remains only to discover the true constitution of tropine. Ladenburg has contributed numerous facts, by extended researches, which have gradually thrown light on this subject, and he has now made a most important further step which promises to lead to success. From tropidine, namely, one of the decomposition products of tropine, he has succeeded in obtaining dibrompyridine, which itself has been already prepared synthetically, and the constitution of which is fully known and understood. It remains only to discover the true relation of tropine with pyridine, or with piperidine, from which it is evidently derived.—After *Liebig's Annal. der Chem.*, 217, 74 sqq.

Separation of Magnesia from Lime, Ferric Oxide and the Alkalies.

BY H. HAGER.

If one gram magnesia is treated with 80 *cc.* of a cold five-per-cent solution of oxalic acid, a clear solution is obtained, which, on boiling, deposits all its magnesia as magnesium oxalate. A very small portion of the precipitate is redissolved on cooling. If the magnesia is mixed with ten parts of glycerin before solution in oxalic acid, no turbidity occurs on standing in the cold, but the magnesium oxalate is nevertheless precipitated on boiling. For separating calcium from magnesium when both occur as carbonates, the author mixes the finely-powdered sample with ten parts of glycerin and a little water, and adds forty to fifty parts of a five-per-cent solution of oxalic acid. Calcium and magnesium oxalates are both formed, the former remaining undissolved, whilst the magnesium salt passes into solution. After standing for half an hour, the calcium oxalate is collected upon a filter, washed, and determined as usual. The filtrate is boiled in a flask for five to eight minutes, filtered boiling, and the precipitate is dried and weighed as magnesia.

In a solution containing salts of calcium and magnesium, the liquid is first mixed with glycerin, a sufficiency of ammonium oxalate is added, the liquid is strongly acidulated with oxalic acid, and the process completed as above.

Magnesium can also be precipitated in presence of ferric oxide by adding glycerin, ammonium oxalate, and oxalic acid, and boiling. In order to determine the ferric oxide in the filtrate, it is heated to a boil along with ammonium carbonate, evaporated to dryness, and the glycerin extracted with alcohol. The insoluble residue is treated with ammoniacal water, and the ferric hydroxide is collected upon a filter.

For separating magnesia from the alkalies, the hydrochloric solution is boiled with ammonium oxalate and oxalic acid, and filtered at a boil.

The author gives the following method for ascertaining whether in calcined magnesia or in the carbonate the proportion of lime exceeds a certain limit:—0.1 gram of the calcined magnesia or 0.25 gram of the carbonate must be well shaken up in a test-tube with a solution of oxalic acid at five or ten per cent. Perfectly pure preparations dissolve in the first minute, and the solution remains clear for five minutes; in presence of lime the solution is turbid. In the latter case, the agitated turbid liquid is poured into a test-tube of 1.25 *cm.* in width, and an ink line upon paper 1 *mm.* in breadth is examined through the column of liquid. If this is still possible, the proportion of lime in the calcined magnesia does not exceed 0.25 per cent, and that in the carbonate 0.1 per cent.—*Zeitsch. f. Anal. Chem.* and *Chem. News.*

A New Ergotin Preparation.

According to Conrad, a definite quantity of carefully purified ergotin is to be mixed with melted gelatin and cast into small cylinders. The quantity of ergotin contained in each is about 0.2 gm. (3 grains). These cylinders are kept in a small test-tube in the pocket case, and when wanted for use, one of them is dissolved in a quantity of water corresponding to the desired volume, by means of a gentle heat, for which the flame of a match is sufficient. The solution is injected at the temperature of the body. In the large number of cases in which it has been used it has never produced any abscesses, and has always had prompt effect.—*Wien. Med. Blätt.*

Preparation of Sulphate of Aluminium Free from Iron.

C. Falberg, in conjunction with Semper, claims to have practically solved the problem of preparing sulphate of albuminium from bauxite ores so as to be free from iron by the use of lead peroxide, which is prepared by first triturating a mixture of two parts lead monoxide and one part sodium chloride, until the mass assumes the white tint of lead oxychloride; the product is then boiled with bleaching powder until lead peroxide is formed, which is washed and preserved in the damp state. This paste is added to a neutral or slightly alkaline solution of bauxite in sulphuric acid; for every part of iron contained in the solution twenty parts of the dioxide are required. It is necessary to work with concentrated solutions and to avoid a rise of temperature; the iron must also be as a ferric salt. In order to recover the peroxide employed, the solid matter is separated by a filter-press suspended in water, and then dilute sulphuric or nitric acid added, which leaves the peroxide undissolved, so that it can be employed a number of times without losing any of its properties.—*Bul. Soc. Chim.* and *The Analyst.*

New Cuprea Bark, derived from localities in Colombia where it had not been collected previously, has lately arrived in Europe in small quantities. Larger supplies of this important source of quinine will probably arrive in the course of time.

Semi-Annual Report on Commercial Drugs and Chemicals.*

Aconitine.—The more feeble demand after this alkaloid is probably in part due to the serious accidents recently reported. "Hottot's" aconitine was asked for repeatedly, but it could not be obtained in substance, only in granules. Gehe & Co. have prepared some crystallized aconitine from *Aconitum Napellus*, which they offer at lower rates than formerly. From the statements made by Gehe & Co., it is to be inferred that they consider it the same substance as that prepared by Duquesnel and Petit. The amorphous alkaloid, being a mixture of all the alkaloids, is so liable to changes in composition (owing to its ready solubility in water), that the therapeutic effects of every single batch may be different.

Adonis Vernalis.—This herb was in brisk demand. Heretofore it had only been in use in Russia, where it formed a popular remedy in dropsy and heart disease. Dr. Bubnow, of St. Petersburg, made a series of experiments with the drug, during which he observed that it increases the contractile force of the heart, renders the pulse somewhat less rapid but more full and regular, and that it increases the excretion of urine from 200 to 2000–3000 *cc.*, while albumen and epithelial cells disappear from the urine.

Agar Agar, or Tjen Tjan gelatin, is now only used by confectioners. Japan exported from January to November, 1882, 7,542 piculs.

Ammonium Sulphate.—This substance is not only obtained as a condensation product in the English coke furnaces, but also in the furnaces of the Scotch iron works, and in much larger quantity than formerly, owing to the improved methods. Weldon has calculated that the existing 120 Scotch furnaces consume 2,190,000 tons of coal, which represent a quantity of 20,000 tons of sulphate of ammonium. A still larger amount could be obtained from the English coke furnaces, which carbonize annually 20,000,000 tons of coal, and could produce 180,000 tons of sulphate of ammonium.

Aspidospermine has almost ceased to be in demand, although Quebracho bark and its extract are still moderately used.

Asaron.—A small quantity of this chemical rarity (the crystalline camphor of asarum) has been prepared by Gehe & Co.

Atropine is asked for in constantly-increasing quantities. The relative amounts of the sulphate and the pure alkaloid sold by Gehe & Co. are about as 100 to 15, and that of the sulphate to all other salts or other solanaceous alkaloids as 100 to ½ (or 1).

Borate of atropine has recently been introduced into medicine.

Balsam of Peru.—The exceedingly high price of last year was due both to diminished supply and to speculation. The exports of the ports of Acajutla and La Liberdad, in the State of San Salvador, amounted

In 1876 to 56,402 lbs. Span.		In 1879 to 32,414 lbs. Span.	
" 1877 " 57,937	"	" 1880 " 33,725	"
" 1878 " 32,094	"	" 1881 " 42,220	"

1882, January–October, over 56,000 lbs.

Spurious balsam is said to be still manufactured in Bremen. Even the best commercial sorts do not stand the test with petroleum ether and nitric acid prescribed by the new German Pharmacopœia, and no guaranty can be given that any balsam delivered to order will respond to it. (This test will be found in NEW REM., 1882, 199.)

Camphor.—The price has had a constantly receding tendency, owing to the large imports—12,020 collis in London (against 8,193 in 1881) and 5,159 in Hamburg (against 1,673). Stocks in London were 9,000 colli on January 1st, 1883 (against 4,416 in January, 1882), and further large arrivals are soon expected. The quality of Japanese camphor, which forms at present the principal factor (export, 30,000 piculs* in 1882), has lately been quite inferior, since it entails much loss to the refiner.

Canada Balsam has been very scarce lately. New arrivals in London brought recently as much as 2*s.* per lb.

Carbolic Acid.—The constantly growing coal-tar industry produces such large quantities of the less-employed by-products that it becomes absolutely necessary to find some use for them. If some chemist should succeed in preparing aniline colors equally well by starting from amidophenol instead of from aniline (or amidobenzol), the period of low prices for carbolic acid would soon be over. It would appear as if carbolic acid were in diminished demand both for medical and sanitary purposes, and that less poisonous antiseptics had, to some extent at least, taken its place.

Castor Oil.—It is reported from San Salvador that the "tambor"-tree growing there yields an oil which has the same medicinal effects as castor oil, without possessing its disagreeable properties. It is not stated whether the fruits or the seeds are the source of the oil.

Chamomile Flowers.—Prices were very low, until a sudden revulsion took place in November. The knowledge of a failure of the hop harvest and the consequent rise in value of hops brought about a most eager demand from England and the United States after all possible and impossible substitutes. During several weeks the so-called "bitters" played an extraordinary rôle in London, as will be seen from the following synopsis:

	Jan., 1882.	Oct., 1882.	Nov., 1882.	Dec., 1872.
Roman chamomile ..	65*s.*	65*s.*	210*s.*	125*s.*
Chirata-herb.....	9*d.*	3½*d.*	42*d.*	15*d.*
Columba-root.....	27*s.*	16*s.*	95*s.*	45*s.*
Cocculus Indicus	40*s.*	28*s.*	75*s.*	70*s*
Quassia	6*s.*	6*s.*	35*s.*	6*s.*

Chinoline—which was ushered in with so much noise, does not seem to be able to maintain its ground, both the base itself and its salts being in but limited demand.

Cinnamon, Ceylon.—The decline in price of this article, during the last few years, is due to the increased importation of the so-called *chips*, or refuse, which is sold at a low price, and is much used in place of the *quills*. The Ceylon Agricultural Association has taken steps to diminish the shipment of chips, so as to raise the value of the quills.

Cinchona.—The great fluctuations of this article, during the last five or six years, were caused partly by the increased consumption of quinine, and—as has already been detailed in previous reports—by active speculation. The advance, by nearly fifty per cent, effected by the ring of speculators, towards the end of 1881, has during the past year been almost entirely dissipated. During the first months in 1882, the market was very quiet; holders of bark receded very gradually from their forced demands, owing to the reserve of the buyers. During March and April, the demand for bark became more brisk; but large new arrivals in June and July brought about a further decline, until the price had reached about the same figure ruling during December of 1881. At this time, the London Syndicate entered into a league with one of the principal manufacturers, which resulted, during the beginning of August, in larger sales and in an advance in price of about ten per cent. This transaction was brought about by the fact that the species of Cuprea bark then arriving in the market (the so-called Tolima bark) was so poor in quality that it scarcely paid to work it; and also by the consideration that the better qualities of Colombia and New Granada bark could not afford to be exported at the ruling low prices. But the transaction does not appear to have been a successful one, since the market became quite dull in September, and this feeling still continues, so that both bark and quinine have again arrived at the lowest level attained in 1881. East India barks have been sold during December at much lower rates than formerly, which fact will probably induce the present holders of Cuprea and other South-American barks to sell at existing prices.

The imports of manufacturers' bark in London were as follows (in collis):

* From the "*Handelsbericht von Gehe & Co., in Dresden*, April, 1883."

* 1 picul = 133⅓ lbs.

	Calisaya.	East-Ind.	Cuprea.	Colombia and Carthagena.	New Granada.
1882	6,312	21,631	5,473		84,155
1881	7,017	15,388	5,723		87,232
1880	6,580	20,692	6,480		44,505
1879	9,187	13,460	5,360		30,659
1878	7,834	6,251	5,771		2,5394

The total imports in England, France, and the United States were (in collis):

	Imports.	Stocks on December 31.
1882	176,078	103,076
1881	162,185	59,743
1880	131,223	48,369
1879	121,360	44,577

According to reliable authorities, the South-American barks will probably have ceased to be a ruling factor in five or six years, as it will then no longer pay to collect the bark in the interior virgin forests, and the importations of East-Indian bark from and after 1887 will be so enormous as to be alone sufficient to supply the demand. It is supposed that the East-Indian and Ceylon planters will be well able to bear still lower prices. The rapid increase of the export of bark from Ceylon will be seen from the following figures:

Oct. 1, 1878 to Sept. 30, 1879	:	373,511 lbs.
" 1879 " " 1880	:	1,208,518 "
" 1880 " " 1881	:	1,207,720 "
" 1881 " " 1882	:	3,099,895 "
" 1882 " Jan. (?) 1883	:	over 2,0 0,000 "

which will be increased by October, 1883, to between five and six millions of pounds. The London market makes great efforts, by practical hints and suggestions to the planters, to monopolize the East-Indian stocks of barks, a considerable quantity of which still finds its way directly to Italy and the United States. During November last, the London brokers also decided to charge only net prices, instead of including tare, dust, etc., as formerly.

Though the Javanese barks make a slower progress, yet they are distinguished by their high alkaloidal percentage, which is, however, nearly reached by the better qualities of East-Indian bark (with four to seven per cent of total alkaloids).

Coca Leaves—were in good demand, and although larger quantities arrived (during 1882 in Hamburg 70 bales, against 23 bales in 1881), no stocks have accumulated. The drug is being used more frequently in stomachic complaints; most excellent results are said to have been obtained with it in persons addicted to morphine; the drug is said to restore not only the functions of the stomach, but also to tone up and resuscitate the mental and physical power.

Codeine—owing to the increased consumption, could be procured in sufficient quantity only with difficulty, and rose about twenty-five per cent in value. It is to be hoped that the alkaloid may soon be artificially prepared from the more abundant and cheaper morphine.

Condurango.—True Mataperro condurango has been quite scarce, but the high prices will probably soon bring new supplies from Ecuador. Gehe & Co. state that they have not heard of any further cures effected by the drug, and that many refuse to put faith in it. [On this side of the Atlantic, condurango has long been thrown among the rubbish, the most careful observers having failed to obtain any results with it. It appears more than strange that the drug should have found an advocate, among the members of the German Pharmacopœia Commission, of sufficient influence to insure its insertion in the new edition.—ED. N. R.]

Digitaline.—Gehe & Co. state that the effects of the *crystallized* digitaline are said to be "more feeble," but "more precise" than those of the amorphous base.

Ergotinine (Tanret's).—Upon request of the Pharmacological Institute of Strassburg, Gehe & Co. have made many attempts to prepare this alkaloid, to which the oxytocic effects of ergot are ascribed, and have at last succeeded. It is a substance which is very readily decomposed, being quickly altered by alkaline reagents, or even by a moderately elevated temperature. It soon assumes a red-brown color. Dr. Kober, of Strassburg, writes to Gehe & Co., in respect to it, as follows:

"You can scarcely realize how you have delighted my pharmacological heart by your ergotinine, for its action is most extraordinarily strong, and such as I never have attained in my own experiments. Frogs are placed by one-twentieth milligram into a deep toxic condition, which is remarkable by its close resemblance to that produced by veratrine, inasmuch as the muscles—although promptly contracting—require from four to six hours for again relaxing. This peculiar condition lasts many days. A few milligrams administered to guinea-pigs produce a condition resembling strychnine-poisoning, inasmuch as they exhibit convulsive twitchings of the legs and dyspnœa, and finally die from paralysis. The intoxication may be very nicely studied in rabbits, which are affected already by injections of one-tenth milligram into the circulation. At first, the cardiac plexus is excited; then follows a stage in which the blood-pressure is increased. This discovery is of the *greatest importance*, since it has been suspected, for the last twenty years, that ergot increases the blood-pressure and thereby acts upon the uterus. Larger doses diminish the blood-pressure in rabbits permanently, produce cramps lasting for hours, and cause death by asphyxia. It is remarkable that the alkaloid has no effect upon chickens, although the latter are very easily affected by ergot, and may be killed by feeding three times with ten grams of the crude drug."

The hypodermic dose of the substance is 10 to 20 drops of a solution containing 1 milligram in 1 cubic centimeter.

This preparation is the *most expensive* drug so far quoted, since at lowest rate it must be put at 200 marks (50 dollars) per gram (or 3⅓ dollars per grain). Yet even this price is seven and one-half times *lower* than that charged by the French manufacturer, namely, 1.50 marks (36 cents) for one milligram in solution.

Euphorbium—has been in some considerable demand during the last few years, being used—according to some reports—as an addition to ship-paint. The German Consuls in Mogador and Lathi have made a report on it, from which the following data are abstracted: Euphorbium, which is obtained from *Euphorbia resinifera* (resembling a cactus), is called *Ferbioon* by the Arabs.

[*Ferbioon* is the arabicized *Greek* word "euphorbion," and occurs in Ibn Bait'âr and modern authors. It is still used, as stated above, by some of the Arabic-speaking people of Northern Africa. But the plant is also called, popularly, *akil nefsihi* ("the consumer of his life," beause it gradually withers); and in the Berber dialect it is called *takout*. Pliny (Hist. Nat., 5, 1 (1) 16 and 25, 7 (38), 77) states that the plant was discovered by Euphorbus, the physician of King Juba, of Mauritania, who named it after him.—ED. N. R.]

The plant, which grows to a height of about three feet, grows plentifully in the district of Entifa or Inteefa, at the foot of the Atlas mountains, in the northeastern part of the province of Sragna, principally near the village Kla or Alcala, about two days' travel northeastward from the city of Morocco. It grows wild, without any cultivation, over a large extent of open country, and the gum-resin is collected chiefly in the latter part of the summer or beginning of autumn. As soon as it is known there that the article is in demand, large quantities are collected by the poor people and sold upon the market in Morocco for about 10 shill. per 100 lbs. From there it is transported, at very low rates, by camels to the shipping ports, namely, Mogador, Lathi, and sometimes Daral-Baida. Since euphorbium is no longer used as an internal remedy, it has hardly paid the native to collect or the merchants to handle it.

Gentian has experienced a considerable advance, owing to the failure of the crop in Piedmont in consequence of the inundations. The demand from England and the United States has also increased.

Gum Arabic.—Owing to the troubles in Egypt, the price went up during the past summer about 10s. per 100

lbs.; with the renewal of intercourse, the value receded again, but the recent revolutionary condition of affairs in Kordofan has again advanced the price.

Insect Powder.—Dalmatian flowers were as abundant as in the preceding year. Trieste received, from June 1st, 1882, to February, 1883, 589,500 kilos, of which 462,800 kilos were exported. This leaves a stock, on March 1st, of 126,700 kilos, of which 5,500 consist of wild, 58,300 kilos of closed and half-closed cultivated, and 62,900 kilos of open cultivated flowers. The demand for the United States was very brisk during February, and higher prices are expected.

Iodine.—By the new process discovered by Loewe and Weissflog, the cost of iodine production in Chili is estimated to be only £10 per 50 kilometers. If this process were generally adopted, the province of Tarapaca alone could produce annually 25,000 cwt. of iodine, provided that the annual shipments of nitrate of sodium were to amount to between eight and ten million cwt., which would require about forty or fifty million cwt. of the crude nitrate. One thousand cwt. of the latter represent ½ cwt. of iodine. Before such enormous quantities are produced it would probably be necessary to find other uses for the iodine, since the present, chiefly medicinal, employment could not absorb them.

Jaborandi Leaves have arrived in large quantities. The inert jaborandi of the Argentine Republic, from *Serronia Jaborandi*, has ceased to be exported.

Japan Wax.—Japan exported from January 1st to November 27th, 1882, 22,448 piculs. Prices are declining.

Kairine.—This newly-patented chemical, the hydroxymethyl-chinoline (see NEW REM., 1883, 41), which has been so highly lauded as a substitute for quinine, was furnished by the owners of the patent (Meister, Lucius & Brüning, in Höchst) only in such minute quantities that it was impossible to make extended experiments with it. The last small invoice to Gehe & Co. was accompanied by the request not to send any of it to France, probably because the otherwise liberal French Patent Commission could not be induced to grant a patent to the already well-known introduction of hydroxyl and methyl into the chinoline or any other organic nucleus.

Kamala.—The new German pharmacopœia permits only 6 per cent of ash. Unfortunately, the recent invoices have not been such as to furnish an article responding to this test, even with the most careful sifting. [The new United States Pharmacopœia permits 8 per cent, which is more easily complied with.—ED. N. R.]

Lily of the Valley Flowers.—The great demand has produced a copious collection, but stocks have been entirely consumed. Collectors still adhere to their high figures.

Liverwort Herb has been bought up in large quantities and at advanced prices for the United States. Nothing definite could be learned as to its use.

Lupulin.—At the present high rates, and great scarcity of this article, it is impossible to find any complying with the requirement of the U. S. Ph. to furnish not more than 10 per cent of ash.

Oil of Eucalyptus.—The scarcity of this article during the last few months is due to the difficulty of shipment, many captains refusing to take it on board. At present this difficulty seems to be somewhat obviated.

Oil of Mustard (fixed).—This oil has been for some time past, and is still offered at prices below the possible cost of manufacture.

Oil of Ylang-Ylang has again become dearer, in consequence of the destruction caused in and about Manila by the violent hurricanes during last October.

Opium.—The past season has experienced but trifling fluctuations in prices. After the large yield in Asia Minor, in 1881 (12,000 couffes), the product of last year (about 4,500 couffes), showed a considerable deficit and the advance of fine Yerli from 120 to 124 piasters at Smyrna must be regarded as very moderate. The prospects for the present season are said to be less favorable, since the farmers in the northern districts were encouraged, by the non-appearance of the locust-plague during the past summer, to devote more attention to cereals. Nevertheless, the total area employed for poppy-culture is now larger than in former yars. Alarming reports have for some time past come from India, regarding the condition of the opium crop; should there be a deficiency, China would undoubtedly appear as a buyer in Asia Minor. The production of opium in the western provinces of China, Szechuen and Yunnan has, in spite of the interdict of the government, assumed such large proportions that foreign opium has almost ceased to influence the market there. Opium-cultivation is indeed quite a favorite occupation for the agricultural population, since the poppy-seed may be sowed in December and the crop is ready for harvest during April and May, leaving still time during the summer for the raising of rice, upon which alone the government collects a tax. Servia has now also begun to produce opium; the latter contained 9 per cent of morphine and sold for 15 florins per oka.

Papayotine.—Both the pure substance, and that which represents only 25 per cent, have lately been in active demand and seem to have found favor permanently. The dried juice of *Carica Papaya*, however, in form of a coarse gray powder, is now unsalable.

Phosphoric Acid.—The higher price of phosphorus has not yet affected the acid, since the manufacturers are still working up the existing stock.

Piperine had to be advanced in price, partly on account of the higher prices of pepper, and partly because the oil of pepper, which is obtained at the same time, cannot be readily disposed of.

Plasters.—Much praise is bestowed by Gehe & Co. upon the handsome American plasters having a rubber-base. The following are in most favor: India rubber adhesive, Belladonna, Mercury, and Isinglass.

Incidentally it is remarked that the "Emplastrum Animale" (the so-called Royal Bavarian Kleb-Taffet or adhesive taffeta), which is prepared by Joseph Kleiber in Munich, consists mainly of gold-beater's skin prepared with tincture of arnica.

Podophyllotoxin—the active principle of Podophyllum, and the active portion of the so-called podophyllin, has been in good demand.

Pomegranate Bark.—The commercial bark is chiefly derived from the *branches* of the tree. The new German Pharm., therefore, permits the use of the bark of the branches as well as of the root. [The U. S. Ph. excludes the former, but will probably have to recognize it in its next revision, since it appears to be equally efficacious, and it is impossible to supply the demand with the root-bark alone.]

Quinine Sulphate.—Aside from any other factors which may influence the price of this important drug hereafter, it seems to be an inevitable consequence of the enormous development of the East-Indian cinchona plantations that the value of quinine will shrink from year to year, since it will be difficult to consume the annual production. An important factor for the expansion of the European quinine-manufacture is the maintenance or increase of the American demand for European quinine. All efforts on the part of the manufacturers in the U. S. to regain the lost ground by a restoration of the import duty have so far failed. The following quantities were imported from Europe into the U. S.

1877–78 ...	17,549 oz.	1879–80....	416,998 oz.
1878–79....	228,348 "	1880–81....	408,851 "
		1881–82....	794,495 oz.

Rhubarb.—The arrivals for more than a year past have been unsatisfactory both in quality and in quantity. Only 1130 chests reached London in 1882, while 1,524 were delivered, so that only about 700 chests remain on hand. It remains to be seen whether the cheap Austrian (or rather Moravian) rhubarb could not, at least in some measure, be utilized as a substitute for the Chinese [legitimately, of course]. *Rheum compactum* has been cultivated for over eighty years near Austerlitz, and has formerly been largely exported to Lyons and Milan as a dye-stuff for silk. It is said to be almost as efficacious as Chinese rhubarb, so

much that roots of 5 or 6 years of age have frequently been sent to Russia, whence they reappeared as expensive "Moscovite" rhubarb.

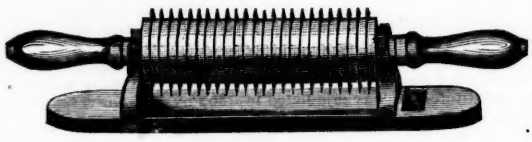
Santonin.—The manufacture of this principle is gradually being transplanted from Europe to Asia, that is, to the districts in which santonica has its home. It is reported that a factory for its exclusive production is about to be erected in Tashkend (Turkestan).

Storax.—Liquid storax has reached Trieste only in limited quantities for several years past. Its consumption for perfumery and medicinal purposes is very considerable, and is further augmented by the demand of the new German Pharmacopœia that only purified storax (by benzol) shall be used, of which only about fifty or sixty per cent is obtained from the crude. Gehe & Co. prefer to purify storax by ether, as it is difficult to get rid of the last traces of the benzol odor.

Sugar of Milk.—Gehe & Co. draw attention to the fact that milk-sugar eagerly absorbs all kinds of odors, and betrays them by its taste. Their own powdered milk-sugar sometimes exhibits this peculiarity, inasmuch as it has absorbed the mixture of odors prevailing in their factory.

Sulphuric Acid.—Gehe & Co. incidentally mention that the manufacture of sulphuric acid in Japan, in connection with the newly established mint, seems to be an assured success. During the past year, over one million pounds of the acid were exported to China, where no such factory has yet been established.

Tartaric Acid.—The price, at present almost equal to that of citric acid, is at an abnormal height. During 1882, Germany exported 12,334 metric cwt. (à 112 lbs.) against 12,758 in 1881.



Revolving Knife for Cutting Troches, etc.

To save the labor of cutting the mass rolled out for the preparation of square tablets of licorice, chloride of ammonium, or other troches, Emil Oberdörffer, of Hamburg, has constructed a revolving knife, with twenty-four steel blades, which need only be rolled twice over the mass, the second time at right angles to the first, in order to produce the decided result. While making the first set of incisions, the mass should not be quite cut through, otherwise the pieces will lose the cohesion which they need during the second cutting in the other direction. Price of apparatus, 45 marks.

Refining of Camphor.

Aug. Meiler, of Berlin, some time ago obtained a patent (Germ. pat. No. 20,496) for a new method of refining camphor. Crude camphor is introduced into a sheet-iron box, about 8 cm. (2¼ inches) high and 50 cm. (about 20 inches) square. This is covered with a sheet of asbestos, paste-board or other poor conductor of heat, the lower surface of which is coated with tin-foil which is divided, by means of a knife, into squares. The sublimed camphor breaks along the edges of these cuts and formed cakes of the size of the squares. Through the centre of the plate a small tube is passed, which carries off aqueous vapor. The box has a broad rim upon which the non-conducting plate rests. An iron flange is placed on this and tightened by means of clamps.

The editor of the *Chemiker-Zeitung* (from which we take this item) adds that camphor may be refined much more easily by dissolving it in petroleum benzin, filtering, and evaporating (or recovering) the solvent.

Pharmaceutical Preparations of Corn-Silk.

Since the reccommendation of corn silk as a remedy for catarrh of the bladder, physicians of Schuylkill Co., Pa., according to Mr. Geo. W. Kennedy, of Pottsville, have been well pleased with the results following its use in this malady. In the *American Journal of Pharmacy* for May, Mr. Kennedy gives the following formulas for preparing it, premising them by saying that *fresh* corn-silk only to be used, that which has been dried being inert. The silk should be gathered before it changes color, such portions only being used as have a green or greenish-yellow tint.

Tincture of Corn-Silk.

Take of corn-silk, green, twenty-four parts	24
" diluted alcohol, sufficient to make one hundred parts	100

Cut the silk into small pieces, which are to be beat to a pulp in a mortar together with a small quantity of diluted alcohol. Place the pulp in a cylindrical glass percolator, having its orifice closed, and add sufficient menstruum to form a layer over the pulp; cover closely, and macerate for forty-eight hours; then permit the percolation to take place at the rate of forty drops per minute; add diluted alcohol, and continue the percolation until one hundred parts are obtained.

The tincture has the odor of the drug, is of a yellow, straw color, and of pleasant, sweetish taste. Dose for an adult, fl. ʒ i. to fl. ʒ ij.

Fluid Extract of Corn-Silk.

Corn-silk, green, two hundred grams	200
Glycerin, twenty grams	20
Diluted alcohol, sufficient to make one hundred cubic centimeters	100

Cut the corn-silk in small pieces. Mix the glycerin with eighty grams of diluted alcohol, and beat the corn-silk, moistened with a part of the menstruum, in a mortar. Pack in a cylindrical glass percolator; add sufficient menstruum to cover the pulp, and when the fluid begins to escape from the orifice, close it, cover tightly, and macerate for forty-eight hours. Then percolate at the rate of about forty drops per minute. Add the remainder of the glycerin mixture, and then diluted alcohol until the drug is exhausted, reserving the first seventy cubic centimeters of the percolate. Evaporate the remainder to thirty cubic centimeters, and mix with the reserved portion.

The odor, taste, and color are more pronounced than is the case with the tincture. Dose for an adult, one-half to one fluid drachm.

Syrup of Corn-Silk.

Fluid extract of corn-silk, twelve parts	12
Syrup, eighty-eight parts	88
To make one hundred parts	100

Dose from one to two fluid drachms.

In a discussion which followed the reading of this paper, Mr. Robbins said that one pound of fresh corn-silk, when dried, yielded little more than an ounce, and he knew that as good results had followed the use of the dry as the fresh drug.

Positive Copies of Drawings, etc.

Suitable paper is coated with a two-per-cent solution of bichromate of ammonium, to which a little grape-sugar has been added, and dried in the dark. The paper containing the drawing is laid upon it and exposed to light until the prepared paper has assumed a gray color. It is now dipped into a one-per-cent solution of nitrate of silver, one-tenth of the volume of which consists of acetic acid. The positive image developed thereby consists of bichromate of silver, which becomes dark-brown on drying.—*Phot. News* and *Chem. Zeit.*, No. 27.

Glycerin, and its Application to Pharmacy.*

BY F. HARRIS ALCOCK.

I PURPOSE in this paper to briefly lay before you a few important facts about glycerin, and how they are made use of in our calling. Some months ago, there appeared in the Journal of the Society of Arts a letter from Messrs. Price & Co., the well-known candle and glycerin makers, asking readers to send them a list of the various applications to which the subject of our communication was and could be applied. Naturally, I turned to the pharmaceutical aspect, with the following result:

We will presume that the appearance, specific gravity, taste, etc., of this preparation, together with its history, and how that celebrated chemist and pharmacist, Scheele, first prepared it, is known; but, besides the usual methods of preparation described, I should just like to mention one source which is now yielding a considerable quantity of tolerably pure, but slightly colored glycerin. You will know I speak of the leys which are left and run to waste in the manufacture of soap. Numerous patents have within the last few years been taken out by chemists and others, having for their object the recovery of this valuable substance, and in some cases considerable success has been obtained by the patentees. An account of many of these has appeared in various journals. Before proceeding to the special object of this paper, it would not be out of place to relate some examples of the wonderful solvent action which glycerin posesses. It dissolves many inorganic substances, such as borax (Glycerinum boracis, B.P.), iodine, arsenious acid, phosphorus ($\frac{1}{10}$ grain to ʒ i.); oxides of barium, strontium, and calcium; potassic and sodic hydrates (even when anhydrous); all deliquescent salts; sulphates of potassium, sodium, calcium, copper, iron, and manganese; freshly-precipitated ferrous carbonate; chlorides of potassium and sodium (this latter sticks very tenaciously to the glycerin, being present in the soap-lyes above mentioned—even distillation does not effectually separate them); carbonate and oxide of lead; basic acetate of lead (Glycerolum plumbi subacetatis, which is made with the same quantities of lead compounds, as in B.P., but using glycerin in place of the distilled water and heat of an oil-bath); ferric chloride (here may be noted that if glycerin be in considerable excess the iron is not precipitated by means of its usual precipitants); the hypophosphites of the metals sodium, potassium, calcium, iron, manganese, etc.; sulphuret of potash; permanganate of potassium (but this substance when added to glycerin is decomposed with explosive violence); nitrates of potassium and of silver, copper, and lead; pyrophosphate of iron; sulphate of iron and ammonium (Monsel's salt), and most saline substances; iodide of ammonium, iodide of sulphur, nitrate of bismuth, ingredients of Easton's syrup, oxide of zinc, etc. Of substances of organic origin may be mentioned the vegetable acids (Glycerina acidi tannici, gallici, carbolici); alkaloids such as morphia and its salts, the cinchona alkaloids; brucia, strychnia, veratria, and their salts; aconitia (with addition of a little acetic acid); lupulin (with addition of a little alcohol); salicylic acid, gum arabic, starch (Glycerinum amyli, B.P.); the colors prepared from coal-tar, such as aniline violet (this with glycerin forms an ink which was the subject of a patent by Messrs. Vasseurs & Houbigant, in May 21st, 1856, and was the ink lately recommended by Professor Attfield at one of the meetings of the Pharmaceutical Conference), aniline blue, cyanine, alizarine; alcoholic madder extract, aloes, and resinous substances; active principles of cloves, nutmeg, cinnamon (with their oils, etc.); coloring principle of saffron (polychroite or saffranin), and such compounds as the scale compounds of the B.P., ferrum tartaratum, ferri et ammoniæ citras, ferri et quiniæ citras, together with ferri et ammoniæ citras cum strychniâ, etc. Of animal and other substances: Pepsin, pancreatine, white of egg (albumen).

Of such a powerful solvent, devoid of any injurious properties, the pharmacist can make considerable use. Amongst other advantages, it mixes readily with water and spirit in all proportions, but is insoluble in ether, chloroform, and oils (Squire). For a list of definite solubilities of substances in glycerin, see table by Klever in *Pharmaceutical Journal*, 1871, page 763, or Mackenzie's work on Chemistry, vol. v., p. 53.

USES.—When glycerin is acted upon by means of a mixture of equal parts of sulphuric and nitric acids, nitroglycerin is formed: this, under the name of "Glonoine," is coming into use as a medicine, in the form of a one-per-cent alcoholic solution. As a lubricant in all cases where oil is used glycerin may be substituted with considerable advantage. A little added to mucilage prevents it drying hard and crisp, and causes paper so gummed to remain flexible, as is the case with ordinary labels.

Plasma.—Under this name, many years ago, was brought out a preparation very much like the official glycerin of starch, but the proportions were different, and, instead of wheaten starch, *tous-les-mois* or arrowroot was used. This preparation is hygroscopic, and should be "satisfied" with water before putting up into vessels for sale.

Glycerin of Tragacanth.—This is very useful in the dispensary, and is frequently resorted to as a final excipient for troublesome pill-masses. It is prepared as follows: Tragacanth in powder, 1 part; glycerin, 4 parts; rubbed together, and kept for use. The addition of a little water satisfies the hygroscopic property of the glycerin. Pills made with this, however, sometimes get very hard; this is specially the case with quinine and simple rhubarb pills. These have been known to pass through the body undissolved. If too much excipient has been used, pills have an India-rubber-like feel, and are not easy to keep in a round form.

Glycelæum.—This was recommended some years ago as a substitute for fats, etc., as a basis for ointments, and was made from almond meal, ½ oz.; glycerin, 1 oz.; olive oil, 3 oz. It is certainly a nice combination, and would serve as a good basis for some remedy for chilblains and chapped hands, but I am unable to say if it was ever a success as a fat-substitute. It was originated in 1867 by Mr. Groves, With the addition of a little honey, it would make a good almond and honey paste for the hands, etc.

Lime-juice and Glycerin.—Under this head is sold in pharmacies a preparation partaking more or less of the nature of an emulsion, but which contains very little of the lime-juice and much less of the glycerin. Some are made by the simple mixture of solution of an alkali or borax with almond or olive oil; but it may be worth while to mention that a veritable mixture of these these two ingredients, viz., glycerin and juice of the lime-fruit, will give a really good preparation, which answers the purposes for which the other is intended very well indeed.

As an antiseptic, glycerin is very largely used, alone or in combination with such antiseptics as borax, boracic acid, salicylic acid, etc. Boroglyceride, a recently-patented antiseptic, was introduced by Professor Barff, and is much used for the preservation of milk, preserves, meats, fish, etc., and in medicine and surgery. One part of glycerin with ten of water is as good as spirit for preserving animal substances in, and this mixture is less inflammable and volatile than spirit, and not so expensive. Used to preserve museum specimens of tissues, soft-bodied animals, etc. Glycerin is used also to preserve tincture of kino from gelatinizing, to keep fluid extracts, confections, infusions, liqueurs, fruit syrups and essences, and many substances which are prone to go bad and ferment. Mixed with Griffiths' mixture, *i. e.*, mistura ferri composita, it helps to preserve the iron in the "ous" state. It has been recommended for the preparation of those articles of commerce called "liquors," such as ferri iodidi, ferri phosphatis, liquor pro Eastoni syrupo, and is said to give satisfactory results. Considering the difficulty of keeping the iron preparations of the Pharmacœpia, it will be worth any young pharmacist's while to conduct some experiments to prove whether this be true or not.

In the preparation of that popular article of the toilet, "Tincture of Myrrh and Borax," it can be used with con-

* A paper read before the Chemists' Assistants' Association, January 31st, 1883.

siderable advantage, for it acts as a preservative and as a solvent of borax, and has an agreeable effect on the gums.

As an excipient in pill-making, it is useful, such masses as pil. coloc. co., B.P., which have a tendency to grow very hard, being kept in a moderately soft condition by means of a judicious addition of glycerin, with an equal quantity of water or proof spirit. For tannic acid (5 gr. = 1 min.), gallic acid (5 gr. = 1 min.), pepsin (5 gr. = 1 min.), and Plummer's pill it is applicable, but in the last-mentioned case should be in the form of mucilage, with tragacanth and water as above recommended. 135 grains of oxide of zinc require ½ drachm of glycerin. Where much citrate of iron and quinine and citrate of iron and ammonia are used in mixtures, it is convenient to keep solutions containing 1 part of the salt in 2 of water. These solutions keep much better when mixed with one-eighth their volume of glycerin.

With an equal bulk of tar the mixture so produced forms a good substitute for the official unguentum picis liquidæ, or tar might be mixed in equal parts with glycerin of starch, and a better preparation than that of the B.P. would be obtained.

It has been recommended to use glycerin in place of lard in the "enfleurage" process for the production of delicate perfumes from flowers, and also as a substitute for common salt in the preservation of such official flowers and leaves, as those of *Sambucus* and *Rosa centifolia*; these have only to be placed in jars and covered with glycerin to preserve their natural colors.

Basis for Pessaries.—Glycerin, 2 parts; starch, 3 parts; heat until incorporated. Where much solid has to be administered, such as zinc oxide, this forms an admirable basis, and is not too hard. The powder is mixed with the basis and then pressed into moulds. The gelatin basis now so much used for suppositories and pessaries in place of cocoa-butter is prepared thus:—1 oz. of Nelson's gelatine is softened by soaking in about 1 oz. of water until absorbed; it is then dissolved in 3½ fl. oz. glycerin by means of a water-bath, and allowed to cool and solidify. When it is required to be medicated, a sufficient quantity is melted on the water-bath, the medicament dissolved or suspended in fine powder in the basis, and the mixture is poured into the usual moulds.

In the production of syrups glycerin has largely taken the place of sugar, and the products have received the generic term of "glyceroles." Lactucarium and numerous alcoholic extracts of drugs, such as jalap, veratrum viride, aloes, etc., can be mixed in this way with satisfactory results. In the case of aloes a glycerole has frequently been made thus: Take aloes and exhaust with rectified spirit, filter, recover spirit by distillation at a low temperature, and add glycerin to make up to the original volume of alcoholic liquor; or in this instance glycerin will produce an equally strong and good preparation alone by the aid of the heat from a water-bath, filtration being effected in the usual way for thick syrupy liquids. Syrup of saffron prepared with glycerin is an elegant preparation, and keeps well.

Soap.—Amongst sundry uses of glycerin may be mentioned its employment as a soap. Pears' transparent and others owe their transparency to glycerin. *Jelly.*—A preparation for the hands, generally supposed to be a weak solution of gelatin in water and glycerin, colored and scented according to fancy. Camphor and glycerin balls—mixture of camphor, lard, and glycerin—used for the hands in winter-time.

Jujubes and Pastilles, etc.—Gelatin with glycerin added, with or without the addition of flavoring agents. These can be the means of administering potent drugs, as morphia, etc.

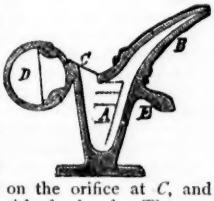
During experiments on the digestive powers of pepsins, fibrin, albumen, etc., can easily be preserved in glycerin. Yolks of eggs can be preserved indefinitely by the aid of glycerin. This is important, for both preserver and preserved are now being largely used in the preparation of skin for kid gloves and other purposes. To the microscopist glycerin is a very valuable reagent for the separation and preservation of tissues as objects for the microscope and also for use as a solvent for stains which are injected into preserved specimens of tissues, particularly when of animal origin. Used to "glycerize" cotton-wool and bandages for dressing wounds. It prevents mustard drying up, and enables us to combine it advantageously with the water when preparing this condiment for the dinner-table. As a cement, oxide of lead with anhydrous glycerin gives a rapidly-drying cement, which answers well for covering bungs to stopper carboys containing volatile liquids, as ammonia, spirit, etc. As an addition to tooth-pastes, taraxacum cocoa-paste, poultices, it helps to keep them moist.

On the scientific side of pharmacy we will only give a few of its uses. As a water-bath, or rather as a substitute for a water-bath, where a temperature much above 212° Fahr. is required, we can use glycerin in place of oil or paraffin. It is not only much cleaner, but quite as serviceable. As a means of preserving strong solutions of such volatile substances as hydrocyanic acid (for exportation in concentrated form) and sulphuretted hydrogen.

Glycerin enters largely into the composition of the "pad" used in the many forms of hectographs, chromographs, cheirographs, lithograms, copygrams, copygraphs, autographs, etc. Added to court plaster and collodion, it renders both more flexible as protective agents, and enables us to dispense with the use of Canada balsam and castor-oil, which in the collodium flexile is used for that purpose.

In the second part of this paper, which we hope to print next month, Mr. Alcock gives details of his experiments with glycerin as a substitute for alcohol in the preparation of certain pharmaceutical products.—*Chemist and Druggist.*

A New Feeding Cup.



After the requisite amount of liquid has been poured in the cup *A*, its mouth-piece *B* is cautiously inserted over the tongue, the opening *C* being meanwhile closed with the finger. On releasing the latter, the contents of the cup flowly slowly out. Should it be necessary to cause it to run out quickly, the finger is retained on the orifice at *C*, and the rubber-ball *D* compressed with the hand. The projection at *E* prevents the cup from being inserted too far, and likewise serves as a handle. The illustration indicates that the nozzle is provided with a sleeve of rubber or some similarly soft material to render its contact with the teeth more agreeable. The patentee is Frank Kingston, Albyn Road, St. Johns, Kent, England.

Substitute for Guttapercha.

German Patent 20,939, granted to Maximilian Zingler of London, covers the following process:

About 50 kilos of powdered copal and 7½ to 15 kilos of sublimed sulphur are mixed with about double the quantity of oil of turpentine or with 55 to 66 liters of petroleum and heated in a boiler provided with a stirring apparatus to a temperature of 122–150° C., and stirred until completely dissolved. The mass is now allowed to cool to 38° C. and mixed with a solution of about 3 kilos of casein in weak ammonia water to which a little alcohol and wood-spirit had been added. The mass is then again heated to 122°–150° C. until it is thin-fluid. It is now boiled with a 15 to 25 per cent solution of nutgall or catechu, to which about ½ kilo of ammonia had been added. After boiling for several hours, the mass is cooled off, washed in cold water, kneaded in hot water, then rolled out and dried.

"Neuralgia" is the name borne by a charming girl of Iowa. Her mother found it on a medicine bottle, and was captivated by its sweetness.

Notes on Commercial Albumin.

BY ALFRED H. ALLEN.

THE applications of albumin are now very numerous, and as it differs much in quality, according to its origin and the details of its preparation, it is sometimes necessary to ascertain its purity and freedom from adulteration.

Commercial albumin is obtained chiefly from two sources—eggs, and the serum of blood. Fish-albumin is also met with occasionally, and may be recognized by its fishy odor.

Blood or serum-albumin is obtained by separating the serum from the clot of perfectly fresh blood. The liquid is evaporated in shallow trays, at a temperature not exceeding 50° C., when the albumin is obtained in brittle scales or transparent flakes of a grayish, yellowish, reddish, brown or black color. The qualities of serum-albumin, made by leading firms, are "refined," "prime," "No. 1," "No. 2," and "black." *Refined* is made from highly rectified serum, and is of a dirty yellow color, and, like *prime*, is employed for printing delicate colors. No. 1 is darker in color and less valued, though suitable for all ordinary printing purposes. No. 2 quality is made from the second draining of the serum, which, after the clear top serum has been siphoned off, is more or less tinged with red, and consequently is only fit for printing dark colors; as a rule, it also contains some insoluble matter, which is objectionable. *Black albumin* or "dried blood" is obtained from the last portions of serum, and is almost black in color. It is not used in calico-printing, but finds applications in sugar-refining and Turkey-red dyeing. The clot, left after separation of all serum, consists chiefly of fibrin and blood-corpuscles, and is dried, roasted, and used as manure.

Serum-albumin may be employed for printing all but the very finest and brightest colors. Perfectly colorless blood-albumin, equal to the finest egg-albumin, is said to have been recently produced in Germany.

Egg-albumin is obtained in a solid state by cautiously evaporating the white of eggs, at a temperature below 50° C. It is generally transparent, and of a light yellow color. It is more valuable than serum-albumin, and consequently is more liable to adulteration. Two genuine qualities are made. Egg-albumin should be free from blisters, which are often present in partially coagulated samples.

Albumin of good quality is recognized by its transparency, when in flakes, by its taste not being disagreeable, and by having no odor of putrefaction. Treated with cold water, with constant stirring, it should dissolve entirely.*

Commercial albumin is liable to adulteration with gum, dextrin, flour, sugar, etc. For its examination, 5 grams of the powdered sample should be treated with 50 *cc.* of cold water, with frequent stirring, until all soluble matter is dissolved. Pure and good samples leave no residue. A few drops of acetic acid should next be added, and any undissolved matter filtered off through silk or fine muslin. It may consist of coagulated albumin, casein, starch, or membraneous matter. The casein may be dissolved out by treatment with very dilute caustic soda, and precipitated by exactly neutralizing its solution with acetic acid. The aqueous solution of the sample is boiled, when the albumin is thrown down as a flocculent precipitate, which may be filtered off, washed and weighed; or ignited with soda-lime, and the albumin deduced from the ammonia obtained. The filtrate should be treated with acetic acid and potassium ferrocyanide to make sure that no albuminoid remains in solution.† Its absence being proved, tannin may be added to precipitate any gelatin; and the filtrate concentrated to a small bulk and treated with alcohol to precipitate any gum or dextrin, while sugar, if present, will remain in solution in the alcoholic liquid, and may be detected by boiling off the alcohol, heating with hydrochloric acid, and testing the liquid with Fehling's solution. Sugar might also be extracted by treating the original solid sample with alcohol.

Ziegler's method of assaying commercial albumin is to dissolve 20 grams of the sample in 100 *cc.* of cold water, strain through a sieve, and add 10 *cc.* of the clarified liquid to a boiling 20-per-cent solution of alum. After noting the appearance and volume of the coagulum, it is washed, dried and weighed. De Coninck (*Journ. Chem. Soc.*, xxv., 1129) finds that the process gives a precipitate containing not more than 1 per cent of alumina, and that it is sufficiently accurate for the purposes of the calico-printer. With pure albumin very good results are obtainable, and their accuracy is not affected by the presence of dextrin, but gum-arabic prevents the precipitation of albumin to a very notable extent.

I have made some observations on the proportion of ash yielded by various qualities of commercial albumin, and the results have some interest, although they are not applicable to the detection of any special adulterants. The proportion of ash cannot be readily ascertained by direct ignition of the albumin, owing to the fusible nature of the carbonate of sodium and other salts of which the ash is mainly composed. The difficulty may be obviated by treating a weighed quantity of the sample in a porcelain crucible with nitric acid of 1.42 specific gravity and two or three drops of strong sulphuric acid. On heating gently, the albumin dissolves to a clear yellow liquid, which may be evaporated to dryness without trouble, giving a residue which readily burns and leaves an ash of tolerably high melting point. Operating in this manner, Mr. J. C. Belcher obtained in my laboratory the following percentages of "sulphated ash" from a series of samples of commercial albumin manufactured by a leading firm:—

	Sulphated Ash.
"No. 1" Egg Albumin	7.4 per cent.
"No. 2" " "	7.0 " "
"Refined" Blood Albumin	9.1 " "
"Prime" " "	8.5 " "
"No. 1" " "	9.2 " "
"No. 2" " "	8.9 " "
"No. 3" " "	9.7 " "
"Black" " "	6.2 " "

All the ashes were white, exeept that yielded by the black albumin, which gave a reddish ash, owing to the presence of blood-corpuscles in the original sample. Curiously enough, in this, the lowest grade of genuine albumin, the ash is less than in the better kinds.—*The Analyst*, 1882, 209.

* For practical purposes, the albumin is best dissolved in warm water, of a *maximum* temperature of 45 to 50° C. The albumin should be added gradually, and the liquid constantly stirred. The water should on no account be added to the albumin. The liquid, after straining through a fine silk sieve, is usually mixed with a small proportion of ammonia, turpentine-oil, etc., in order to prevent frothing and make it work smoothly. Turpentine also tends to prevent putrefaction, but an addition of about one per cent of arsenious oxide is said to be the best preservative.

† Any precipitate produced at this stage will probably consist of casein.

Removal of Fat-stains from Paper.

OIL or fat-stains, even when old, may be removed from paper or similar fabrics by means of a mixture of benzol and magnesia. Calcined magnesia is mixed with a sufficient quantity of benzol to produce a mass which becomes granular after a while. A little of this mixture is rubbed with the finger upon the stain and the little granules of magnesia afterwards wiped off. Fresh stains usually disappear entirely, old ones after a short time, particularly if the treatment is repeated two or three times. A great advantage of this method, originally introduced by Hirzel, is this that it may be used upon the finest kind of paper and that it scarcely affects printed paper; prolonged contact only rendering the printing paler.

The mixture should be preserved in well-closed glass-stoppered vials.—*Neueste Erfind. und Erfahr.*

Mr. Marcus Benjamin, a young chemist, whose contributions to journal literature are well-known, has been appointed analyst of sugars to the New York Custom House.

BIBLIOGRAPHY.

A MANUAL OF CHEMICAL ANALYSIS AS APPLIED TO THE EXAMINATION OF MEDICINAL CHEMICALS.—A Guide for the Determination of their Identity and Quality, and for the Detection of Impurities and Adulterations. For the Use of Pharmacists, Physicians, Druggists, Manufacturing Chemists, and Pharmaceutical and Medical Students. Third Edition, thoroughly revised and greatly enlarged. By FREDERICK HOFFMANN, A.M., PH.D., Public Analyst of the State of New York, etc., and FREDERICK B. POWER, PH.D., Professor of Analytical Chemistry in the Philadelphia College of Pharmacy. 8vo. Philadelphia: Henry C. Lea's & Son & Co. 1883. Pages 624.

THERE will be but few among our readers to whom the above work is a stranger. In its new form, however, it supersedes the previous issues entirely. It has not only been thoroughly revised, but to a very large extent rewritten, this having been made necessary by the increased demands for accuracy of methods and purity of products, as well as by the almost simultaneous appearance of the new United States and German pharmacopœias.

In its present shape, the work is a complete text-book of practical chemical analysis, going, in its *first part*, very thoroughly over the whole ground of chemical manipulations, operations, and reagents. The systematic course of qualitative chemical analysis has been greatly improved, and the process of volumetric analysis, with its application, is described in detail. A method for separating and identifying the principal alkaloids and allied principles has also been inserted.

The *second part* of the work contains all the officinal and the most important non-officinal medical chemicals in alphabetical order. Each chemical is defined, with mention of synonyms (Latin, English, German, French, and Spanish), formula, description, reactions of identity, and of purity, followed, where necessary, by methods of estimation, valuation, or assay. The text is interspersed with numerous wood-cuts, which are a great improvement on those contained in the first editions. The processes of analysis mentioned in the new U. S. pharmacopœia are fully described, explained, and, where it was deemed necessary, supplemented by others. Great care has evidently been bestowed also on the mechanical execution, for the printing and the whole get-up is excellent.

We deem the "Manual" an absolutely essential work for every pharmacist who professes to be willing to be responsible for the quality of the drugs he sells; and a careful study of it will be of great advantage to our pharmaceutical students. The time is approaching when the necessity for laws protecting and assuring the purity of articles of food, drink, and medicine will be much more universally recognized, and a large share of the practical execution of such sanitary laws will naturally fall upon the pharmaceutical profession, provided the growing generation will properly fit themselves for the trust.

VERGLEICHENDE UEBERSICHT zwischen der ersten und zweiten Ausgabe der PHARMACOPŒA GERMANICA. Für Apotheker, Aerzte, Medicinal-Beamte, Drogisten, von DR. B. HIRSCH, Apotheker. 8vo. Berlin (R. von Decker's Verlag; Marquardt & Schenk). 1883.

THE above work, by the masterly pen of our friend Dr. Hirsch, is not a meagre synoptic review of the differences between the first and the second (last) German pharmacopœias, but is to be regarded rather in the light of a commentary. The author points out the differences and either shows why certain alterations were made or criticises the latter, and states how the errors should be corrected. Many articles afford an opportunity to the author to append useful instruction or information on practical subjects. To show the value of the work, we refer to pages 140–142, of our last number, where a few of the author's practical comments have been translated.

A most useful addition of the work is a table containing an alphabetical list of all important medicinal chemicals (whether officinal or not), with their atomistic and dualistic formulas, their atomic or molecular weights and equivalents, and the percentage of pure substance they contain. The table is also published separately in pamphlet and sheet-form.

We shall often have occasion to refer to the work, as the most ready and handy source for just such information on doubtful questions as are always generated by the revision of a pharmacopœia. Those of our readers who have occasion to dispense preparations made according to the German pharmacopœia, should at once procure a copy of the work.

THERAPEUTIC HANDBOOK OF THE UNITED STATES PHARMACOPŒIA: Being a Condensed Statement of the Physiological and Toxic Action, Medicinal Value, Methods of Administration and Doses of the Drugs and Preparations in the Latest Edition of the Pharmacopœia (Apothecaries' and Metric System), With some Remarks on Unofficinal Preparations. By ROBERT T. EDES, A.B., M.D. (Harvard), Professor of Materia Medica in Harvard University, etc. New York: William Wood & Co., 1883, pp. 397, 8vo.

FOLLOWING the alphabetical order of the Pharmacopœia, Professor Edes has given us a concise and valuable commentary on the pharmacodynamic properties of the various articles now officinal. In many instances, the comments are quite brief, while in others, notably in the case of remedies whose value is generally acknowledged, the comments are more extended. In no case, however, do they exceed the amount of information which every student and physician should possess. Throughout the entire work, the author manifests a salutary degree of scepticism respecting the value of many articles, but it is readily apparent that this comes from an exercise of intelligent criticism rather than a disinclination to approve of novelties. The same spirit is manifested in speaking of remedies that have long been officinal, but which have remained so on account of their antiquity, rather than by virtue of their good qualities. It is also evident that the author has somewhat modified his former views about the propriety of having an extensive list of officinal drugs and preparations.

We notice that, in viewing the Pharmacopœia from a therapeutical stand-point, it would appear that some things have been made officinal which would hardly be worthy of such distinction, on the ground that they are valuable as remedies. For example, in speaking of *Quillaia* (soap bark), the theoretical value of its glucoside saponin, as an antipyretic, is mentioned, and also its effect as an anæsthetic and paralysant of the heart and respiration. He adds: "But neither it, nor most of the drugs containing it, is much used in this way. Quillaia cannot be considered as a remedy of established value as yet. Its uses are those of a sternutatory in coryza." Now, the special value of soap bark consists less in its therapeutical properties than in its pharmaceutical uses in the making of emulsions, and for this reason, doubtless, it was admitted to the Pharmacopœia. Something like this might be said of a number of articles which, in the light of pharmaceutical experience, are valuable additions to our materia medica, and are well entitled to a place in the Pharmacopœia. It is hardly to be expected that even so able a therapeutist as Professor Edes should be familiar with the pharmaceutical aspects of the Pharmacopœia, and the fact here referred to shows the advantage of a "mixed" revision committee.

Considering the brief period within which the work has been done, the book seems surprisingly free from errors of statement or verbal faults. Among the few noticed is the title "Mistura Glycyrrhiza," instead of Mistura Glycyrrhizæ *Composita*, and its synonym, "Compound *Elixir* of Glycyrrhiza," instead of Compound *Mixture* of Glycyrrhiza.

Following comments upon officinal articles are remarks upon the following which, though non-officinal, are of sufficient merit to warrant attention: apiol; boldo; butyl or croton-chloral hydrate; chaulmoogra oil; convallaria

maialis; coto bark; curare; damiana; discorea villosa; dita bark; hydrobromic ether; hydriodic ether; ethylene bichloride; fucus vesiculosus; gurjun balsam; helleborein; hoang-nan; ingluvin; kava kava; methylene bichloride; nitro-glycerin; nitrite of potassium; pancreatine; papaya, papayine, and papayotin; Jamaica dogwood; quebracho; resorcin, and trimethylamine. Some of the foregoing are mentioned unfavorably as regards their therapeutic value.

Closing the work is a classified index of drugs arranged according to their effects and uses, and a tabular statement of poisons and their respective antidotes.

A MANUAL OF AUSCULTATION AND PERCUSSION; embracing the Physical Diagnosis of Diseases of the Lungs and Heart, and of Thoracic Aneurism. By AUSTIN FLINT, M.D., etc. Third Edition. Revised. Philadelphia: Henry C. Lea's Son & Co., 1883; pp. 242, small 8vo.

THIS has long been considered one of the best manuals on the subject, and in its latest form has received such revision as appeared desirable.

THE PATHOLOGY AND TREATMENT OF DISEASES OF THE OVARIES. (Being the Hastings Essay for 1873.) By LAWSON TAIT, F.R.C.S., etc. Fourth Edition. Re-written and Greatly enlarged. New-York: William Wood & Co., 1883; pp. 357, 8vo.

THE author may be considered as the best authority, at present, upon this topic, and in re-editing this monograph he has included the recent discoveries and advances in the anatomy of the ovaries and the treatment of their diseases. Especially valuable is the chapter upon "Recent Extensions of Abdominal and Pelvic Surgery." Each chapter is preceded by an extensive bibliographic index, which will aid those who wish to pursue the study in greater detail. Mr. Tait has long been known to place greater importance upon the influence of the ovaries in diseases of the female sexual organs than most authorities in the same field. This work, therefore, has a special interest for all who see much of this class of diseases.

STUDENTS' GUIDE TO DISEASES OF THE EYE. By EDWARD NETTLESHIP, F.R.C.S., etc. Second American, from the Second Revised and Enlarged English Edition. With a Chapter on Examination of Color Perception. By WILLIAM THOMSON, M.D., Professor of Ophthalmology in the Jefferson Medical College. Philadelphia: Henry C. Lea's Son & Co., 1883.

THIS work is practically a condensation of the matter commonly found in treatises on this subject, to which the chapter by Professor Thomson has been added. It gives the anatomy of the eye and appendages, the information necessary for differential diagnosis of ocular diseases, the science of optics so far as it relates to the eye, a general outline of the operations made upon the organ, and, in brief, an account of the therapeutic agents which are found useful.

THE PRACTITIONER'S READY REFERENCE BOOK. A Handy Guide in Office and Bedside Practice. By RICHARD J. DUNGLISON, A.M., M.D., etc. Third Edition. Thoroughly Revised and enlarged. Philadelphia: P. Blakiston, Son & Co., 1883; pp. 529, 8vo, $3.50.

THIS is unquestionably one of the most serviceable handbooks that the student or physician can possess. The number of facts contained in it would be difficult to enumerate in a short notice, but in brief, there are over sixty pages devoted to a variety of tables and statements relating to weights and measures, thermometric equivalents, tables of solubilities, abbreviations, etc. These are followed by rules of professional etiquette, suggestions for case-taking, posological tables, baths, pharmaceutical groups, hints for prescribing, hygienic hints, tables of differential diagnosis, obstetric memoranda, urinary analysis, the management of emergencies, sanitation in contagious diseases, rules for using the hypodermic syringe, galvanism, trusses, the thermometer and bandages, suggestions for nurses, the handling and transportation of sick and injured persons, the removal of stains, the preparation of microscopic material, dietetic preparations, special forms of diet, water analysis, and directions for conducting autopsies.

ORIGIN OF THE STARS AND STRIPES, Together with an Accurate Account of the Washington Genealogy. Prepared for the Publishers by EDWARD W. TUFFLEY, of Northhampton, England. New York: Root & Tinker, 1883.

THIS is a beautiful colored plate 21x28 inches, accompanied by a pamphlet of descriptive text, and is presented in behalf of the New York Life Ins. Co., who have rendered good service by placing in such permanent form a matter of such historical interest.

LECTURES ON MEDICAL NURSING, Delivered in the Royal Infirmary, Glasgow. By J. WALLACE ANDERSON, M.D., etc. Second Edition. New York: Macmillan & Co., 1883, pp. 224, small 8vo.

THIS is one of the best nursing manuals that we have seen, and might well be made a part of an apothecary's stock for sale to families. In the form of ten lectures, it embraces general observations upon the art and duties of nursing; information as to what and how to observe, instruction respecting the care necessary in special diseases; the nature of digestion and the preparation of foods; the hygiene of the patient and surroundings; poisons and antidotes, weights and measures; a glossary of medical terms, and, indeed, pretty much everything that can be imparted in this manner of the art to which it relates. It is, moreover, handsomely published, and sells for $1.00.

MARTIN'S DIRECTORY OF THE DRUGGISTS OF THE UNITED STATES AND CANADA. 1882–83. Containing lists of Druggists, Wholesale and Retail, and Various Branches Connected with the Drug-trade. New York: Charles S. Martin, 46 Cortland street, 1883, pp. 316, 8vo (exclusive of advertisements). $3.00.

THIS is an invaluable work for all connected with the drug-trade who have occasion to do business with others out of their immediate neighborhood. We have found former editions to be of great assistance to us editorially, and we would not now like to be without it.

ENGLISCHES CONVERSATIONS-BUCH FÜR PHARMACEUTEN, von DR. TH. D. BARRY. Berlin: Julius Springer, 1883, pp. 50, sm. 8vo.

THIS work gives a vocabulary of terms most likely to be useful in a retail pharmacy, together with forms of correspondence, dialogues, anatomical terms, tables of relative weights and measures, and such other information as is calculated to aid a German-speaking pharmacist in his relations with English-speaking customers or vice-versa. So small a work can hardly fail to omit some things which might reasonably be looked for, but it is nevertheless a very handy and well-made manual. Its price is 1 mark (about 25c.).

FORMULAIRE DES MALADIES DES VOIES URINAIRES. Par F. MALLEZ. Notes Thérapeutiques et Cliniques Recueillies à la Clinique de la rue Christine. Paris: Adrien Delahaye et Emile Lecroisnier, 1883, pp. 392, 12mo.

THE author announces that this formulary is composed, in great part, of the therapeutic notes and observations collected and arranged by his assistants, and are the outcome of twenty years of clinical teaching. It embraces a large variety of formulas for internal and external use; a description of the mineral waters of Europe that are commonly used in urinary trouble; a description of the methods of employing galvanism, and of making applications of fluids, etc., to the urinary passages. Unlike most French works, its contents are very well indexed, and it also contains an index of authorities, among which French names are naturally most common.

Credit to whom Credit is Due.—Philip Doddridge (1702-1751), spoke of nerve-stretching, and recommended it as a religious stimulant in his *Zeal and Vigor in the Christian Race.*

"Awake my soul: STRETCH EVERY NERVE,
And press with vigor on."

NOTES, QUERIES AND ANSWERS.

Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us, as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.

When asking for the formula of an unusual, patented, or proprietary compound, always accompany the query with any information you may already possess regarding the locality in which it is used, its use and reputed effects, in order to enable us to make inquiry without waste of time and labor. When it can conveniently be done, send also a specimen of the label used on packages of the compound.

Maceration and Displacement in Vacuo.

EDITOR NEW REMEDIES:

DEAR SIR:—In regard to Dr. Merrill's protest against infringement of his patent, dated June 14th, 1870 (and caveat 1868 and 1869), I beg to state that Dr. Samuel P. Duffield, at that time in Detroit, Mich., described his apparatus for the above purpose in the *Detroit Review of Medicine and Pharmacy* (for 1867, I think). From the price-lists of Duffield & Parke, from the year 1866–1867, I see that their fluid extracts made by Dr. Duffield's vacuum percolation were highly recommended by Drs. Armor, Stebbins, Morse Stewart, Brown, Andrews, etc., all of this city. The *American Journal of Pharmacy*, 1869, p. 2, may also be referred to. The patent of Dr. Merrill might, it would seem, with great propriety be protested against. Furthermore, Mr. Frederick Stearns illustrated and described fully his vacuum maceration apparatus in the *Medical Advance* (Detroit), June, 1871, which apparatus he at that time had had in use since 1869, and never made any secrecy of it, freely admitting that the idea was largely Dr. Duffield's. Yours very respectfully,

HANS M. WILDER.

DETROIT, MICH., April 30th 1883.

Bichloride of Methylene.

SIR:—Our attention has been called to the February number of NEW REMEDIES, in which is given an abstract of a paper on Bichloride of Methylene, contributed by W. Traub to the *Pharmaceutische Centralhalle*.

He states that the bottle bore the name of Robbinson & Co., 372 Oxford street, London, and that the liquid contained therein proved on examination to be a mixture of chloroform and alcohol. We wish to say that W. Traub either got hold of a spurious article, or his statements (if intended to apply to our preparation) are absolutely false.

An insertion of the above in your next number will greatly oblige. We are, sir, yours faithfully,

I. ROBBINS & Co.

147 OXFORD STREET, W., LONDON.

No. 1089.—**Nigrosine** (J. B. F.).

This is the name of an aniline color, imparting to a dilute aqueous solution a deep bluish tint. When applied to a white surface, it leaves a pale, bluish-black to deep black mark. A solution containing only ten grains to the fluid ounce will form a jet-black ink, but this will wash off with water, unless the ink is "fixed," as, for instance, by the method given in our January number, p. 27.

A series of coloring matters obtained by heating aniline with "violaniline" (that is the residues of the fuchsine manufacture), or by several other processes, has been discovered a number of years ago by J. Wolff, who called these bodies by the collective name "indulines." They produce chiefly blue, gray, or black colors. They all contain the base $C_{18}H_{15}N_3$ (probably), which has received the names "induline," "azodiphenyl-blue," etc. On heating this induline with fuming sulphuric acid, sulpho-acids are produced which are insoluble in water. But if these acids are neutralized with soda or ammonia, the resulting salts are soluble in *water*. These are called "water-soluble indulines."

Another series of allied dye-stuffs, which are obtained by heating aniline with nitrobenzol in presence of chloride of tin, are called *nigrosines*. They are indulines $C_{18}H_{18}O_3$, in which 1, 2, or 3 atoms of hydrogen are replaced by 1, 2, or three molecules of phenyl.

a. $C_{18}H_{14}(C_6H_5)O_3$

b. $C_{18}H_{13}(C_6H_5)_2O_3$

c. $C_{18}H_{12}(C_6H_5)_3O_3$.

The more phenyl a compound contains, the more soluble is it in alcohol and the less soluble in water. The compound *a* is that usually sold as "water-soluble nigrosine." It may be had from most wholesale drug houses and from importers of aniline dyes. The alcohol-soluble nigrosines are used for the preparation of black varnishes, lacquer, and for dyeing silk and cotton.

No. 1090.—**To Deodorize Iodoform** (Ana.)

Several new methods for this purpose have recently been published. Here are some of them:

1. Carbolic acid..... 1 part.
   Iodoform ..... 2 parts.

Powder, and mix well.

No change seems to take place in the iodoform, but the odor is entirely, or, at least, considerably, masked by that of the carbolic acid.

2. Iodoform..... 100 parts.
   Oil of peppermint..... 5 "
   " neroli..... 1 part.
   " lemon..... 2 parts.
   Tincture of benzoin..... 2 "
   Acetic acid ..... 1 part.

Powder the iodoform finely, and mix intimately with the other ingredients. Transfer to a well-stoppered flask, and keep at a temperature of from 120° F. to 140° F. over a water-bath for two days. The mixture, when finished, has a pleasant odor of Eau de Cologne.

3. Camphor..... 5 parts.
   Charcoal..... 10 "
   Iodoform..... 15 "

Powder, and mix intimately.

The above mixtures are used daily by Dr. Gillete in his practice at the Bicêtre Hospital, according to the *Rép. de Pharm.*

No. 1091.—**Marking Ink** (Inquirer).

The following process which has recently been patented in Germany by Ch. Knab furnishes a *deep-blue marking ink* for marking packages, etc., which is said to completely resist the influence of weather, etc.

Fifty kilos of a liquid logwood extract (containing 30 per cent of the dry) are mixed with 3 liters of alcohol, to which 1 kilo of hydrochloric acid had previously been added, and the mixture, which is to be constantly stirred, to be kept at a temperature of 20° C. Five kilos of chromate of potassium are dissolved in 15 liters of boiling water; 10 kilos of hydrochloric acid are added, and the mixture, after being heated to 30° C., *very* slowly added to the former, contained in a suitable boiler. The whole is now heated to 85° C., the extract-like mass well stirred, and finally mixed with 15 kilos of dextrin and 10 kilos of fine white bole. The mass is then transferred to a mill, where it is thoroughly worked together and finally transferred to tin boxes, in which it is allowed to dry.

Marking Ink for Rubber-Stamps.

Adolph Vomacka recommends the following practical method, which replaces the marking-pad and vial with ink.

Thirty to forty parts of concentrated glycerin are saturated with the desired color (blue, red, green, black, etc.), which must be an aniline color of the darkest corresponding tint, and soluble in water. Ten parts of glue are

soaked in cold water for twenty-four hours, the excess of water then poured off, the swelled glue dried rapidly between towels and then melted on a water-bath in the above-mentioned glycerin, of which a larger or smaller quantity is required, according to the quality of the glue. The excess of water is evaporated off, taking care not to stir the mass so as to incorporate air-bubbles, and the mass is then poured into suitable receptacles.

If, on standing, any air-bubbles show themselves, they may be removed with a stiff cardboard. The smooth surface of elastic glue now represents the color-pad, and yields up its color evenly and slowly. If the mass becomes uneven it may be restored by simply melting, and if it should become a little hard on the surface, it need only be rubbed over with a sponge dipped in hot water.

If metallic stamps are to be used upon these glue-pads, the smooth surface of the former should be roughened by fine emery or sand-paper.—*Rundschau f. d. Pharm.*

No. 1092.—**Litmus Paper** (W. K. S.).

Commercial litmus consists mainly of chalk and gypsum, to which the peculiar coloring matters of the litmus-yielding lichens adhere. This is powdered, digested with six parts of distilled water for twenty-four hours, and then filtered. The filtrate is divided into two portions. One portion is rendered ju t distinctly red by the addition of very diluted phosphoric acid, in drops, and stirring. To this enough of the other portion is added to restore the *blue color.* The liquid is now poured into shallow, flat-bottomed vessels (such as are used by photographers for toning are most suitable), and strips of pure filtering paper (Munktell's Swedish, or Schleicher and Schürr's) drawn through it. The strips are held up by one corner over the vessel, until the superfluous liquid has drained off, and then hung on strings to dry. Care must be taken that the atmosphere of the room is free from acid or ammoniacal vapors.

Red litmus paper may be prepared by drawing the blue strips through alcohol to which a few drops of dilute phosphoric acid has been added. Alcohol does not dissolve the coloring matter.

Or, stir blue solution of litmus with a glass-rod which has been dipped in very dilute phosphoric acid (sulphuric acid will also answer, here and in the preceding), and repeat this process until the liquid turns distinctly red. Then draw paper through it, as before mentioned.

The blue and the red paper must exhibit their respective tinct distinctly.

Litmus paper prepared as above directed still contains coloring matters which mar the brilliancy or distinctness of the blue or red tint. These foreign matters, which have a reddish color in a neutral solution, are soluble in alcohol and may be removed, after the plan of Mohr, by boiling the powdered litmus with repeated portions of eighty-five per cent alcohol until the latter ceases to take up any more. This operation consumes a good deal of alcohol, but if it is performed in a continuous extraction apparatus, the alcohol may nearly all be saved.

Stolba directs to saturate well-washed white linen or cotton cloths with the litmus solution, and then to dip them in a five to ten-per-cent sulphuric acid. The true coloring matter of litmus (azolitmin, which is insoluble in acids) is thereby precipitated upon the fiber, and the other matters may be washed off with water. By macerating the cloths in very dilute ammoniacal water, the blue color is again rendered soluble and extracted. The excess of ammonia must be neutralized by the cautious addition of sulphuric or phosphoric acid.

The finest tint, both of the solution and of the test-paper, is produced by following the plan of Kretschmar (see NEW REM., 1881, 45). The aqueous extract from powdered litmus is mixed with fine sand and evaporated, a sufficient quantity of hydrochloric acid being added, during the evaporation, to render the mass permanently red, even after effervescence has ceased. The resulting brownish-red powder is thrown on a filter, washed first with hot, then with cold water, and finally again dried on a water-bath. It now consists of grains of sand coated with the pure litmus color (Kane's azolitmin), which is almost insoluble in water free from alkalies. The sandy powder is now extracted with dilute solution of ammonia, the filtrate just reddened by the addition of dilute sulphuric acid and brought to the neutral point with ammonia. It is then divided into two portions and treated as in the first-named case.

If the litmus solution is to be kept as a liquid, it must be preserved in *uncorked* bottles, the mouth of which is merely secured against dust. If the air cannot have free access to it the solution will gradually alter and lose its tint.

Hager recommends to add alcohol as a conservative. Ten parts of litmus treated by Kretschmar's process are to yield 50 parts of tincture, of which 10 parts are to be alcohol.

No. 1093.—**Chrysophanic Acid** (Dr. H. B. F.).

The substance usually called chrysophanic acid, which has played a considerable *rôle* during the last few years as a local remedy in certain skin diseases, is more correctly called *chrysarobin.* It is a substance separated by certain solvents from goa powder, a substance found deposited in the wood of the trunk of *Andira Araroba* Aguiar. This commercial chrysarobin may be converted, by oxidizing agents, into true chrysophanic acid, and it frequently contains traces of the latter body, but it should *not* be designated by the name "chrysophanic acid."

True chrysophanic acid was discovered in 1819 by Schrader, in a lichen, namely *Parmelia parietina* Ach. It was first prepared pure by Rochleder and Heldt in 1843, and was subsequently met with in another lichen, viz., Squamaria elegans, also in the roots of various species of Rheum, particular the officinal rhubarb, and in the leaves of various species of Rumex and Cassia (senna).

According to Kubly, rhubarb contains only a small quantity of the acid ready formed; a larger amount is obtained by treating rhubarb so as to split up the glucoside chrysophan.

It may be prepared in the following manner. Powdered rhubarb is exhausted with very dilute alcohol containing some potassa in solution, the expressed and filtered liquid saturated with carbonic acid gas, the resulting precipitate is redissolved in 50 per cent alcohol containing some potassa, and, after filtration, precipitated by acetic acid. The last precipitate is dissolved in boiling alcohol (strong), the solution filtered hot and then mixed with water. This causes the separation of chrysophanic acid in yellow flakes. It may be purified by repeated crystallization from alcohol, or more completely, by precipitating the alcoholic solution with acetate of lead, depriving the filtrate of lead by means of sulphuric acid, and precipitating it by the addition of water. In this case it should also be further purified by recrystallizing it several times from alcohol.

Warren de la Rue and Müller recommend exhaustion of powdered rhubarb, which had been soaked in cold water and again dried, with benzol, in a displacement apparatus. On distilling off the benzol from the percolate, the residue congeals, on cooling, to a crystalline magma, which is pressed and again dissolved in boiling benzol, while an accompanying reddish-yellow substance (emodin) remains partly undissolved, partly separates from the solution during the cooling. The filtrate is evaporated to the crystallizing point, and the crystals purified by repeated crystallization, first from benzol, then from glacial acetic acid or alcohol.

Concerning the *therapeutic* effects of chrysophanic acid, the statements are quite contradictory. According to Schlossberger (*Ann. Chem. and Pharm.*, 66, 83) the acid prepared from Parmelia parietina has no purgative action, and that prepared from rhubarb was found to be inert even in doses of ½ gram, according to Buchheim. On the other hand, Schroff noticed, after a dose of ½ gm. of the pure acid from parmelia, eructations and slimy stools, which latter commenced about 24 hours after taking the dose and continued to the fifth day, accompanied by want of appetite, oppression of the head, dizziness and lassitude. Schlossberger denies the transition of the acid into the urine,

and ascribes the yellow color of the latter, after rhubarb has been taken, to phæoretin and erythroretin. Schroff and Buchheim, however, noticed yellowness of urine regularly after each administration of the acid, even up to the eighth day, and Meykow asserts that the rhubarb-resins color the urine only if contaminated with chrysophanic acid. The purgative effect of rhubarb can evidently not be ascribed to the small quantity of chrysophanic acid present, and only in part to phæoretin (which purges only in larger doses).

All other therapeutic statements, which have appeared in late years, concerning chrysophanic acid, refer to chrysarobin from goa-powder.

No. 1094.—**Thymol** (M. S.).

Among the liquid mixtures for administering or employing thymol, the following may be mentioned as having been used to some extent :

Aqua Thymol (Thymol Water).

Thymol, one part 1
Aquæ destillatæ, one thousand parts 1,000

Heat the distilled water to not over 60° C. (=140° F.) and shake the thymol briskly with it until it is dissolved.

Emulsio Thymol (Thymol Emulsion ; Wunderlich).

Thymol ..... drch. ½
Olei olivæ ..... fl. dr. 1
Acaciæ ..... dr. ½
Aquæ destillatæ ..... fl. oz. 2

Fiat emulsio.—One dose.

Mistura antidiphtheritica, Warren.

Thymol ..... gr. 8
Potassii chloratis ..... gr. 75
Quininæ sulphatis ..... gr. 45
Acidi hydrochlorici ..... gr. 15
Glycerini ..... fl. oz. 2
Spir. vini gallici ..... fl. oz. 9

Dose : A teaspoonful every hour for children between 2 and 5 years.

Mistura Thymolica (L. Lewin).

Thymol ..... gr. 1½
Aquæ destillatæ ..... fl. oz. 3½
Aquæ aurantii florum ..... fl. oz. 1½

Dose : A tablespoonful several times daily.

Linimentum Thymol.

Thymol ..... gr. 30
Glycerini ..... fl. oz. 1
Alcoholis ..... fl. oz. 1
Aquæ destillatæ ..... fl. oz. 18

As an application in pityriasis, etc.

Liquor Antisepticus (Volkmann).

Thymol ..... gr. 15
Alcoholis ..... fl. dr. 4
Glycerini ..... fl. dr. 6
Aquæ distillatæ ..... fl. oz. 3

Warren's Inhalation.

Thymol ..... gr. 8
Sodii boratis ..... gr. 300
Glycerini ..... fl. oz. 1¼
Aquæ camphoræ ..... fl. oz. 2½
Aquæ picis ..... fl. oz. 7.

To be used as an inhalation, by means of the atomizer.

No. 1095.—**To silver Glass Mirrors** (Tyro).

The process of silvering glass generally rests on the reduction of metallic silver from a solution by means of glucose or some other organic substance. By Liebig's method the deposit of silver is produced by the action of a mixture consisting of 50 parts by measure of a silver solution, and 10 parts of a reducing solution, this latter previously diluted with 250 to 300 parts water. The components of the silver solution are: 140 parts of a solution containing 10 per cent of nitrate of silver; 100 parts of a solution of nitrate of ammonium (free from chlorine) of 1.115 specific gravity (or a solution of sulphate of ammonium of specific gravity 1.105–1.106); lastly, 750 parts of caustic soda lye of specific gravity 1.050. In case sulphate of ammonium is used, its solution must be added to the silver solution, not as in the case of nitrate. The reducing solution consists of 1 part by measure of sugar liquor and 1 part of copper liquor.

The *sugar liquor* is prepared by dissolving 50 grams (771½ grains) of white sugar in water to a thin syrup, kept for 1 hour at a boiling heat with 3.1 grams (48 grains) tartaric acid; the solution is then diluted to measure 500 cubic centimeters (1.1 pints).

The copper liquor consists of a solution of 2.8 grams (44 grains) dry tartrate of copper in water, by the aid of a caustic soda solution added by drops until the blue salt is dissolved; the whole is then diluted with water to measure 500 cubic centimeters (1.1 pints).

The glasses to be silvered, if for mirrors, are placed upright on their edge in the silvering tank and held together in pairs by clamps ; when for optical purposes, they are held in a horizontal position, just touching the surface of the fluid. In cold seasons the temperature must be kept at 68° to 84° F. The quantity of silver necessary for a square yard of surface is from 46 to 54 grains.

No. 1096.—**Sealing Wax** (Subscriber).

The following formulæ are stated to give good results:

1. *Red.*

a. Take of very pale shellac 4 oz.; cautiously melt it in a bright copper pan over a clear charcoal fire, and, when fused, add of Venice turpentine 1¼ oz.; mix, and further add of vermilion 3 oz.; remove the pan from the fire, cool a little, weigh it into pieces, and roll them into circular sticks, on a warm marble slab, by means of a polished wooden block; or it may be poured into moulds whilst in a state of fusion. Some persons polish the sticks with a rag until quite cold.

b. Shellac, 3 lbs.; Venice turpentine, 1¼ lbs.; finest cinnabar, 2 lbs.; mix as before. Both the above are "fine."

c. As the last, but using one-half less of vermilion. Inferior.

d. Resin, 4 lbs.; shellac, 2 lbs.; Venice turpentine and red lead, of each 1½ lbs.; as before. Common.

2. *Black.*

a. Shellac, 60 parts; finest ivory black, reduced to an impalpable powder, 50 parts; Venice turpentine, 20 parts. Fine.

b. Resin, 6 lbs.; shellac and Venice turpentine, of each 2 lbs.; lampblack, q. s. Inferior.

No. 1097.—**Jamaica Dogwood** (H. O.).

The root-bark of *Piscidia Erythrina*, nat. fam. *Leguminosæ*, has lately attracted attention as a hypnotic. It has long been used in Jamaica for stupefying fish. According to Altamirano, it has also a narcotic effect upon other animals, and this fact suggested its trial upon man. It has been reported to be an efficient hypnotic and anodyne in various painful affections, and to be specially indicated in cases where opium is not well borne. Its effects, in moderate doses, are not very permanent; at all events, it would seem that the doses usually mentioned—from one-half to one drachm of the fluid extract—are not sufficient in severe cases. It seems to have this advantage, however, that it is unaccompanied by unpleasant after-affects. Dr. W. Hamilton, of Plymouth, England, has experimented with it upon himself in doses of one fluid drachm of the fluid extract. It produced a sensation of internal heat, gradually extending towards the surface of the body, and followed by profuse perspiration and deep sleep.

The remedy needs further study at the hands of competent therapeutists before a decided verdict of its usefulness can be given. We are informed that it is about to be experimented with here in New York. If so, we shall give an abstract of the results obtained with it.

No. 1098.—**Kumys** (J. S.).

Besides the methods published in former volumes of our journal, which you say you have tried, we can give you a few others, with cow's milk as base, which is, in fact, generally employed in this country.

1. Cow's milk, half skimmed	21 pints.
Water	6 "
Milk-sugar	¼ lb.
Grape-sugar	¼ "
Sodium bicarbonate	1½ oz.
Sodium chloride	½ "
Borax	½ "
Brewer's yeast	1½ "

Mix them and place the mixture for several hours in a warm place, at a temperature of 30 C. (86° F.). Then cool, strain, and transfer to stout bottles, which must be kept in a cold place. The product does not keep long.

2. Sodium bicarbonate	1 oz.
Sodium chloride	½ "
Borax	½ "
Milk-sugar	10 "
Hot water	4 pints.
Dissolve and add	
Fresh milk	25 "
Water	8½ "
Alcohol	½ "

The mixture is to be impregnated with carbonic acid by means of a suitable apparatus.

	Parts.
3. Condensed milk	100
Water	1,000
Mix and add	
Milk-sugar	1
Citric acid	1½
Jamaica rum	15

To be filled in bottles, then saturated with carbonic acid, kept for several days in a moderately-warm place, and afterward kept in a cool cellar.

4. First prepare the following mixture.

Milk-sugar	3 oz.
Grape-sugar	3 "
Cane-sugar	10 "
Sodium bicarbonate	1 "
Sodium chloride	1 "
Sour whey, boiling hot	1 pt.
Dissolve and, when cold, add	
Alcohol	3 fl.oz.
Brewer's yeast	3 "

Fill the mixture in small vials, which are to be well corked, and keep them in a cool place.

To prepare artificial kumys, add 1 fl. oz. of the above mixture to 1 qt. of lukewarm skimmed milk, in a strong bottle, cork it well, and put it in a moderately-warm place for twenty-four hours.

We quote the above on the authority of Elsner, but would like to add the remark that we do not believe any advantage will be derived by patients from such heterogeneous compounds.

No. 1099.—**Blue Ink** (P.).

A fine, deep and pure blue ink may be prepared, according to Ohme, in the following manner:

½ oz. each of ferrocyanide of potassium and of sulphate of iron (ferrous sulphate), are dissolved, separately, in 1 pint of distilled water by the aid of heat, the filtered solutions, while still hot, mixed in a capacious vessel, and 2 more pints of distilled water added. After the precipitate has subsided, the supernatant liquid is carefully decanted (best by means of a siphon), and the precipitate transferred to a linen strainer where it is allowed to drain. It is now transferred, by means of a horn-spatula, into a porcelain capsule, the latter placed on a water-bath, and the precipitate oxidized by a mixture of 130 grains of nitric acid (spec. grav. 1.225) and 110 grains of strong sulphuric acid, under constant stirring. After twenty-four hours' standing, the precipitate is transferred to a wide-mouthed bottle, and washed with distilled water—which is to be decanted after the solid matter has subsided—until the water no longer gives a reaction for sulphuric acid (with a few drops of solution of barium chloride). The precipitate is now transferred with water on a paper-filter, where it is allowed to drain. The filter is finally lifted with care from the funnel and spread out on several thicknesses of blotting paper laying on very porous bricks. When the blue precipitate has acquired the consistence of a jelly, it is rubbed in a porcelain or wedgewood mortar with 50 grains of oxalic acid, and the whole diluted with distilled water until it measures four quarts. An addition of gum arabic is not necessary. If it is desired, from 3 to 6 oz. of best, white acacia may be dissolved in the above volume.

No. 1100.—**Cement for Aquaria** (Arkansas).

The best cement for this purpose is, in our opinion, the so-called Marine-Glue, which is prepared by dissolving 1 part of caoutchouc (gutta-percha) in 12 parts of benzol, adding 6 parts of shellac, or preferably asphalt, and causing the latter to unite with the former by heating and stirring until the benzol is nearly all evaporated. When the cement is cold, it is a very hard, glossy mass, which requires heating to about 260° F. to render it liquid.

Another good cement for aquaria or water-tanks may be prepared by intimately mixing

Sublimed sulphur, Ammonium chloride, powdered, Iron filings, fine and sifted, Boiled linseed oil, Barium sulphate	of each equal parts.

No. 1101.—**Liquid Glue** (Chicago).

One of the best formulæ we know of is the following:

Take of the best white glue—or, still better, of the best French transparent gelatin—8 parts. Cut it fine, cover it with distilled water, and soak it until soft; then pour off any excess of water. Now melt it on the water-bath, and add to it 1 part of glacial acetic acid. When thoroughly mixed, bottle it.

Among other recipes, the following may be quoted:

A solution of 1 part of sugar in 3 parts of water is mixed with ¼ part of dry slaked lime (calcium hydrate), and the mixture, after being heated to near 165° F., allowed to macerate for a few days, being frequently stirred. Most of the lime will thus dissolve, and the syrupy solution will be found to have considerable adhesive properties. To every 15 parts of the solution 3 parts of glue, in small pieces, are now added, and made to dissolve by gently warming. On cooling, the mass will remain liquid without losing its adhesiveness. This liquid glue may be used for a variety of purposes, but must not be used in presence of coloring matters which are affected by lime, such as Prussian-blue, zinc-green, etc.

Or, dissolve 100 parts of ordinary glue or gelatin in 400 parts of water, together with 7 parts of oxalic acid, by heating on a water-bath in a porcelain dish. After 5 or 6 hours' heating, neutralize the oxalic acid with chalk, dilute with a considerable amount of water, and cover the solution well or keep it in a bottle until the precipitate (or as much of it as possible) has settled. Then evaporate to 200 parts. This is said to yield a good, light-colored liquid glue.

No. 1102.—**Relation Between Dynamite and Nitro-Glycerin** (F. H., Montreal).

The correspondent asks, "What relation does dynamite bear to nitro-glycerin? I wisk to know whether it would answer to make sol. nitro-glycerin in case nitro-glycerin itself were not obtainable?"

Dynamite is simply nitro-glycerin mixed with some substance which renders it safely portable. The thing commonly used for this purpose is a species of earth, which is, in reality, the fossil remains of diatoms, and is highly absorbent. The mixture gives a black, pasty mass, which does not explode when brought in contact with fire, but requires the action of another explosive agent. For this purpose, a fulminate of mercury, such as is used in ordinary percussion caps, is used. In the case of nitro-glycerin by itself, percussion, as with a hammer, or a sudden elevation of temperature will cause an explosion.

As for the possibility of substituting dynamite for nitro-glycerin in making the solution, we are unable to speak.

We advise our correspondent to purchase of some homœopathic pharmacist or wholesale druggists a one-per-cent solution of intro-glycerin in alcohol, which is not explosive, and let some one else be responsible for the making of the solution.

No. 1103.—**White Phosphate of Iron** (F. H., Montreal).

The correspondent asks whether this preparation is manufactured in America, and, if so, by whom? Any manufacturing chemist will furnish it. It has not been long enough in use to appear on the price-lists. Messrs. Andrews & Thompson, pharmacists, of Baltimore, also have it in stock.

No. 1104.—**Sale of Trade-Mark and Proprietary Articles.**—"Nostrum."

"In the purchase and sale of trade-mark or copyright of a proprietory or patent medicine which has been advertised for a number of years, and for which there is an established trade, what is the customary way of estimating the value?"

Such transactions should, we think, be based upon about three years' profits from the sale of the article.

Information Wanted.

Correspondents ask for the formulas of *De Sancti's English Gout and Rheumatic Pills.—Bullock's Catarrh Specific.—Langley's Bitters.*

Queries from Exchanges.

DRUGGIST'S CIRCULAR.

Belladonna in Constipation.—Mr. Hans M. Wilder, of Detroit, who is always discovering something which appears to be marvellous, says now that "having for many years tried almost every cathartic, single and in combination, with only temporary benefit, at best, I at last stumbled upon the following: Take *one* drop—not more!—of tincture of belladonna, U. S. P., morning, noon, and night, in half a tumbler of water, and within one week the bowels will commence to move regularly. Not being a physician, I do not pretend to know in which way belladonna does act, but the result appears to be thorough, judging from the amount of scybalæ."

Condition Powders: horses and cattle.

I.	Black antimony	8 oz.
	Flowers of sulphur	4 "
	Bean flour, or barley meal	1 lb.
	Mix; dose, a tablespoonful with corn.	
II.	Sulphur	1 lb.
	Fenugreek seed	2 lbs.
	Cream of tartar	8 oz.
	Powdered licorice-root	8 "
	Nitrate of potassium	8 "
	Black antimony	4 "
	Gentian	2 "
	Anise seed	2 "
	Common salt	8 "
	Mix; dose, one ounce daily for two or three weeks.	
III.	Gentian	4 oz.
	Licorice-root	4 "
	Fenugreek seed	1 lb.
	Diapente	6 oz.
	Nitrate of potassium	4 "
	Common salt	4 "
	Mix; dose, one ounce.	
IV.	Aromatic powder	8 oz.
	Assafœtida	1 "
	Cream of tartar	3 "
	Crocus metallorum	2 "
	Mix; dose, one and one-half ounces.	

Diapente (used in Formula III.), according to the same authority, may be one or another of a variety of formulas, as, for example: 1. Bayberries, gentian, aristolochia-root, myrrh, ivory powder, of each one pound. 2. Turmeric powder, four pounds; gentian, two pounds; bayberries, two pounds; mustard, three pounds. 3. Gentian powder, four pounds; bayberries, one-half pound. The first was officinal in the Edinburgh Pharmacopœia of 1744, while the latter is now the most commonly used.

[*Crocus metallorum*, mentioned in Formula IV., is the so-called "liver of antimony" or "saffron of antimony" officinal in the London Pharmacopœia of 1788, viz., tersulphuret of antimony, 1 lb.; nitrate of potassium, 1 lb.; chloride of sodium, ℥ i. Mix and deflagrate in a crucible heated to redness; separate the scoria and preserve the fused mass.

Tellor, in his excellent work on "The Diseases of Live-stock," published by D. G. Brinton, of Philadelphia, declares that the majority of "condition powders" do more harm than good. On most occasions when they are used, the animal is either suffering from excess of feeding and want of exercise or from indigestion. In neither case will such compounds as above referred to be likely to be of much service. It seems to be a fact that veterinary medicine is a very long way behind in the progress of the age, and that helpless animals suffer treatment at the hands of ignorant persons, which is not creditable to humanity.—ED. N. R.]

Mixture of Iron and Conium.—The following "Eclectic" formula is given as probably answering to this title:

Precipitated carbonate of iron	10 drs.
Solid extract of conium	5 "
Tincture of tolu	6 oz.
Oil of cinnamon	10 dps.
Oil of wintergreen	10 "
White sugar	2 oz.
Madeira wine	8 "
Water	8 "

Mix together and macerate for a week.

The above is "recommended in dyspepsia attended with irritation of the stomach, pyrosis, or in an excitable state of the system caused by debility." The dose is from one drachm to half an ounce, three to six times a day before eating.

[Only doctors who arrive at such diagnoses are likely to approve of such a prescription. Thirty-six ounces of a mixture in which one of the principal ingredients is notably inert or variable in activity; four serve only for flavoring, or as vehicles; and one (the wine) exists, probably, only in name, or, if any one *is* so fortunate as to have it, he is not likely to waste it on such a compound.—ED. N. R.]

To Clean Soda Fixtures.—A. H. Clark, of Atlantic Highlands, N. J., says:

Precipitated chalk (dentists')	½ oz.
Alcohol	8 oz.

Mix. Rub the mixture on the silver; in a moment it will dry. Then polish with a piece of flannel. Never use chamois and the silver will not be scratched.

Decolorizing Tincture of Ginger.—Too much cudbear having been accidentally added to tincture of ginger, the purple color which resulted rendered it unsalable. The editor suggests the use of sweet skimmed milk, which usually answers with spirituous liquors of about 50 per cent alcohol. Bone-black might also be tried, but is liable to objections. At worst, the tincture can be used to color other batches. [Of course, this is not the *officinal* Tincture of Ginger.—ED. N. R.]

Preserving Eggs.—A correspondent furnishes the following:

Freshly-slaked lime	1 pint.
Salt	½ "
Soft water	3 gal.

Dissolve the salt in the water, and add the lime. When placing the eggs in this fluid, be sure that the lime is in suspension, so that it may be deposited around the shell. Another good precaution is to place some extra lime on a board and lay it on top of the eggs, so as to keep the upper portion of the fluid well saturated with lime. *Fresh* eggs will remain perfectly good for twelve months and more in

the mixture, if kept in a cool place. A poor egg will not sink in the liquid, and if any should become injured by heat they will rise to the surface.

Oil of Pine is presumed to be the essential oil distilled from the boughs of the *Pinus sylvestris*.

Prescription Difficulty.—A correspondent received the following:

℞ Iodide of potassium..... 2 drs.
Tartar emetic..... 1 grn.
Tincture of belladonna..... 1 dr.
Spirit of nitrous ether..... 2 oz.
Syrup of morphine..... 1 oz.
Water.....to make 6 oz.

Mix; dose, a tablespoonful every two hours.

The spirit of nitrous ether being added last, a deep-red, fuming mixture resulted. The fumes resembled nitric oxide, and it was necessary to wait some minutes before the vial could be corked. The patient refused to take it after experiencing the first dose. The explanation is that the iodide was decomposed by the spirit of nitrous ether. [See page 164 of this number.] Three mistakes were made in this prescription: 1, attempting to give these two substances together; 2, adding an alkaloid to such a mixture, as they are slowly precipitated by soluble iodides and immediately thrown down by free iodine, and, 3, sending to a patient a mixture that had behaved in such a manner.

Gum Acacia and Bicarbonates.—Gum arabic mainly consists of arabate of lime, which, on the addition of an alkaline bicarbonate, will form, by double decomposition, arabate of the alkali and bicarbonate of lime, with evolution of carbonic acid gas. The change is not hurtful in itself, but the carbonate of lime remains in suspension and is almost impossible to separate by filtration, while several days are necessary for it to settle.

An Error in the U. S. Dispensatory.—On p. 947 of the 15th edition, in the formula for Basham's mixture, one hundred parts (or about 8 ounces) are called for, and the Dispensatory directs that fifty parts (or 6 ounces) of water be used. The 6 ounces should read *four*. As it now reads the finished product would make ten instead of eight ounces. (GEO. F. SULLARD, Franklin, N. Y.)

Writing Fluids.—ALBERT S. DAVIS, of Richmond, Va., gives formulas for inks which he thinks peculiarly adapted for the use of druggists owing to the fact that their color is not impaired by acids; that they possesses great durability, and are not corrosive. The color of the *blue ink* is yellowish purple, turning to deep, rich, purplish blue, in a few seconds. The *black ink* is brown at first, and changes color quite as rapidly. Should there be any precipitate after exposure, a small quantity of water of ammonia, added drop by drop, will instantly redissolve it. In the first part of the recipe the ferrocyanide of potassium is converted into the ferrocyanide of ammonium, because it acts so satisfactorily, although ferrocyanide of potassium, simple citrate of iron, and hydrate of potassium, sufficient to dissolve the precipitate first formed, would make a much more stable mixture.

Blue Ink.

Ferrocyanide of potassium,
Concentrated water of ammonia, of each,..... 1 drachm
Tartaric acid.....84 grains
Water ..... 4 ounces.

The liquids are to be taken by measure. Mix and filter to separate the bitartrate of potassium. Then add:

Ammonio-citrate of iron.....80 grains
Concentrated water of ammonia.....20 minims
Aniline blue..... 4 grains
Gum arabic .....35 "

Black Ink.

Add to the above 10 grains of gallic acid or, better, the same quantity of pyrogallic acid. It makes a perfectly clear mixture.

NEW PATENTS.

Complete specifications and illustrations may be obtained of any one or more of the following patents by sending the number, title, name of patentee, with twenty-five cents fo each copy, to the Commissioner of Patents, at Washington, D. C., together with the name and address of the person requesting the same.]

273,328. *Machine for Coating Pills.*—Charles C. Wells, Saratoga Springs, N. Y. (See p. 116 of NEW REM. for April last.)

273,363. *Syringe.*—Rhodes Lockwood, Boston, Mass.

273,390. *Preserving Vaccine.*—Herrman Protze, Elberfeld, Prussia, Germany. The compound consisting of vaccine, thymol, glycerin, and water.

373,410. *Gelatine Eye-Discs.*—John C. Wardleigh, Chicago, Ill. A soluble medicated eye-disc, having one face concave to fit the ball of the eye and the other face convex to permit the eyelid to cover and hold the disc against the eye.

273,411. *Manufacture of Ammoniacal Salts.*—Edward H. Wardwell, New York, N. Y.

273,495. *Siphon-Faucet.*—Norton A. Ellis, Boonesbarrough, Iowa.

273,498. *Process of Preparing Oxyhydro-Ethyl Chinoline.*—Otto Fischer, Munich, assignor to Farbwerke, Vormals Meister, Lucius und Brüning, Höchst-on-the-Main, Germany.

273,518. *Lozenge Machine.*—Charles H. Hall, Chicago, Ill., assignor of one-half to Kufus P. Pattison, same place,

273,552. *Composition for Suppositories.*—Anders Larsen, Terrace, Utah. A suppository consisting of tallow, camphor-gum, alum, and "bitter aloes."

273,569. *Manufacture of Hydrogen Peroxide.*—Charles Marchand, New York, N. Y.

273,603. *Pessary.*—Conrad Rahn, Shannon, Ill. A pessary composed of a central steel body or core, a series of superimposed layers of muslin treated with a compound of beeswax, bayberry-wax, and olive-oil, and a coating of the same compound.

273,613. *Salve.* August Shirer, Milwaukee, Wis., assignor of one-half to Otto Brass, same place. Consists of aqua fortis, oxide of iron, spirit of turpentine, beeswax, linseed oil, lard, and white lead.

273,702. *Skin-Puncturing Device, or Recuscitator.*—Walter Bennett, Providence, R. I.

273,795. *Apparatus for Cutting the Scales on Glass Measuring-Vessels.* Richard M. Atwater, Millville, N. J., assignor of one-half to Whitall, Tatum & Co., Philadelphia, Pa.

273,881. *Bottle-Stopping Machine.*—Joseph K. Nyr, Fairhaven, Mass.

273,897. *Means for Withdrawing Corks or Bungs from Bottles, Casks, etc.*—Frederick W. Russel, London, Eng.

273,958. *Baking-Powder.*—William P. Clotworthy, Baltimore, Md. Composed of tartrate of ammonia, bicarbonate of soda, and starch or flour.

273,964. *Machine for Wiring Corks in Bottles.*—George C. Coon, Jersey City, N. J.

274,014. *Medical Compound.*—John Mitchell, Denver, Col. Consists of alcohol, saltpeter, garlic, fir-balsam, gum camphor, gum guaicum, oil of cedar, oil of hemlock, oil of wormwood, oil of sassafras, chloroform, tincture of capsicum, fluid extract of sarsaparilla, spirit of turpentine, spirit of nitrous ether, and sulphuric ether.

274,202. *Balance.*—Thomas D. King, Montreal, Quebec, Canada. The combination of a scale-beam adapted to be moved in a sleeve bearing knife-edges, with a suspensory frame.

274,221. *Bottle-Corking Machine.*—Charles Pfannenstiehl, New York, N. Y.

274,406. *Filter Press.*—William G. Strype, Wicklow, County of Wicklow, Ireland.

274,539. *Corkscrew.*—Cornelius T. Williamson, Newark, N. J.

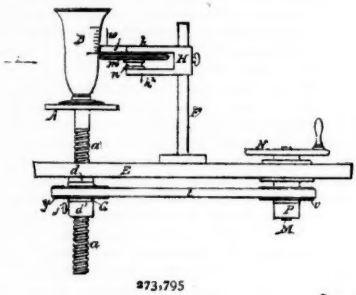
274,608. *Lock Bottle-Stand.*—Charles W. Hutchins, Springfield, Mass.

274,619. *Process of Manufacturing Caustic Alkalies.*—Carl Lörig, Breslau, Prussia, Germany.

274,669. *Process of and Apparatus for Obtaining Boracic Acid from Borates.*—William B. Robertson, Jr., San Francisco, Cal.

271,789. *Production of Disinfectants.*—Charles T. Kingzett, Tottenham, and Maximilian Zingler, Belsize Park, County of Middlesex, Eng.

274,975. *Adhesive Paste.*—George Schanze and John B. Weigman, Baltimore, Md. An adhesive paste which consists of fermented gluten thickened with flour.



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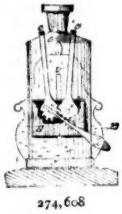

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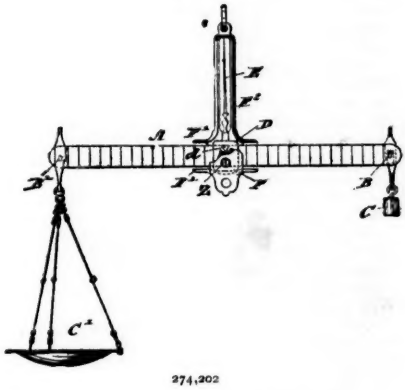

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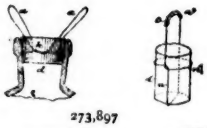

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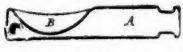

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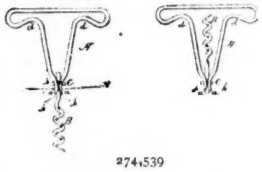

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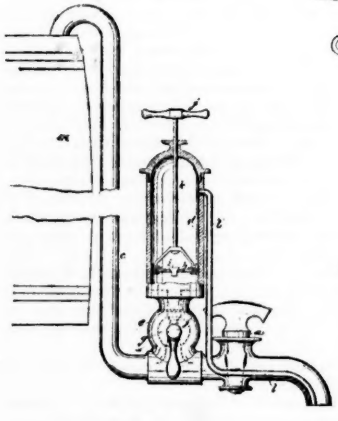

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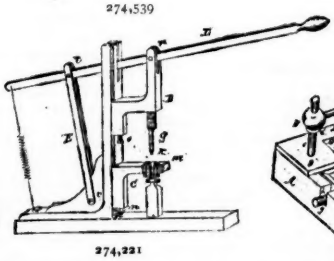

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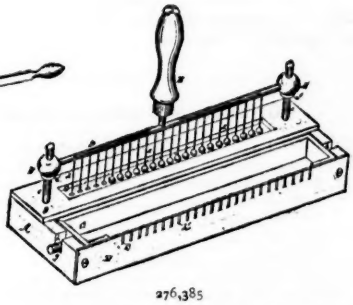

276,385

274,995. *Vial or Bottle.*—Christian Toussaint, New York, N. Y., assignor to Max Gerstendorfer and Albert Gerstendorfer, of Hoboken, N. J. A vial or bottle (*a*), having an open cavity (*b*) formed in the side wall thereof, said cavity extending nearly to the wall of the bottle opposite to that in which it is formed, and being located and arranged in such a manner that the centre of gravity of any contents of the cavity will be low enough to prevent the turning or rolling of the bottle.

275,041. *Apparatus for Boiling Acids and Chemicals.*—Jacob Hesch, Titusville, Pa.

275,092. *Capsule Machine.*—Harrison H. Taylor, Detroit, Mich., assignor to Fred. A. Hubel, same place.

275,348. *Optometer.*—Louis A. Bertoling, San Francisco, Cal.

275,352. *Medicinal Compound.*—Harvey S. Bright, San Alstyne, Texas. Corrosive sublimate, 90 gr.; lunar caustic, 7 gr.; oil cedar, 1 dr.; aqua ammonia, 2 dr.; oil sassafras, 1 dr.; alcohol, 1 oz.; water, 2 dr.; spirit turpentine, 18 dr.

275,461. *Wood-Distilling Apparatus.*—Charles J. T. Burcey, Syracuse, N. Y.

275,472. *Medical Compound for Horses.*—Rudolph Dorn, Omaha, Neb. For the cure of colic in animals, the compound, consisting of henbane leaves, tartar emetics and chamomile flowers.

275,498. *Treatment of Caustic Soda.*—Edward Kirk, Oswego, N. Y.

275,511. *Liquefied Anæsthetic.*—Edward E. Murphy, Jr., Tottenville, N. Y. The process of forming a permanently compressed portable liquid compound of sulphuric ether and nitrous oxide, which consists in forcing nitrous oxide gas through fabrics saturated with sulphuric ether liquid, and then compressing the mixture into a liquid form.

275,524. *Remedy for Ague.*—Charles L. Robinson, San Francisco, Cal. Consists of olive oil, milk, flowers of arnica, spirits of red lavender, and essence of Jamaica ginger.

275,552. *Bottle Case.*—Henry Walton, Philadelphia, Pa.

275,904. *Artificial Cork.*—Carl Grauzweig and Paul Hartmann, Ludwigshafen, Germany. A composition formed of boiled starch and powdered or small pieces of cork.

275,976. *Art of Extracting Glycerin.*—Benjamin T. Babbit, New York, N. Y.

275,997. *Atomizer.*—Paul Chapelain, Paris, France, The atomizer has the form of a revolving pistol, the air-ball being worked by the trigger.

275,119. *Catarrh Remedy.*—Wilhelm Wohltman, New York, N. Y. Carbonate of soda, salt, and water. About half a pound of each are singly dissolved in one gallon of water. The solution is used as a gargle or applied to the nostrils with a syringe.

10.316 (Reissue). *Capsule Machine.*—Frederick A. Hubel and Francis H. Taylor, Detroit, Mich., assignors to said Frederick A. Hubel.

276,153. *Medical Compound.*—Jared C. Blackman, Danbury, Conn., assignor of one-half to Elvira L. Strong, same place. Consists of spirit of turpentine, balsam of Tolu, castor oil, flour of gum-arabic, oil of hemlock, tar, balsam of fir, fluid extract of sarsaparilla, oil of origanum, salt butter, resin, flour of slippery elm, corn starch, wheat flour, sugar, and condensed milk

276,218. *Packing-Box for Bottles, etc.*—John J. Bogard, St. Louis, Mo.

276,257. *Remedy for Diphtheria.*—Sanford Mathis, Madison, Ga., assignor of two-thirds to Augustus H. Mallory and Alonzo R. Mallory, same place. Consists of red-oak bark, white-oak bark, white sumach berries, alum root, water, burnt alum, chlorate of potash, and sulphur.

276,281–276,282. *Capsule Machine.*—Charles F. Purdir, Detroit, Mich.

276,289. *Packing-Box for Bottles.*—John C. Schoenthaler, St. Louis, Mo.

276,297. *Machine for Preparing Papers for Physicians' Powders.*—David M. Smith, Hartford, Conn., assignor to himself and George Wells Root, same place.

276,385. *Machine for Coating Pills with Gelatin.*—Wm. C. Franciscus, Lock Haven, Pa.

Claim.—1. In an apparatus for coating pills, a rod having needles for the reception of the pills, and a loose handle upon which said rod may be revolved, substantially as described.

2. The combination of trough C, having indentations at its bottom, with rods D, having needles *d d*, substantially as and for the purpose described.

3. The combination of trough C, needle-rod D, needles *d d*, and uprights *c*, having shoulders *c'*, substantially as described.

4. The combination, with needle-rod D, having needles *d d*, of slotted stripping-plate H and removable drawer G, substantially as described.

Glycerole of Chloral and Camphor.

CARLO PAVESI, of Mortara, recommends, as a very effectual anodyne embrocation, in rheumatic, gouty, neuralgic, and arthritic affections, the following mixture:

Camphor, in powder	5	gm.	grs. 75.
Chloral hydrate	4	"	" 60.
Glycerin	20	"	fl. ʒ 4.
Alcohol	15	"	fl. ʒ 5.
Oil of juniper	2	"	ɱ 30.

Mix in a vial, and expose to a gentle heat (not over 40° C. or 104° F.), until solution has been effected. Let cool, and keep the vial well stoppered.—*Bollet. Farmac.* (Milano), 1882, 309.

Glycerin-Salves.

VIGIER maintains that the addition of glycerin to ointments or its employment as a vehicle for external remedies prevents the absorption of the latter by the skin. Repeated embrocations of 10 grams of iodide of potassium dissolved in 30 grams of glycerin are said never to have been followed by the appearance of iodine in the urine. As soon as fat was used in place of glycerin, iodine made its appearance. Strong solutions of morphine and atropine also remained inert. [Mineral fats are also said to be with difficulty (or not at all?) absorbed by the skin.]—*Gaz. Hebdom. and Pharm. Zeit.*

ITEMS.

Massachusetts State Pharmaceutical Association.—This Association met at Springfield on the 16th and 17th of May, and was welcomed to the city by Mayor Phillips. The address by the President, Mr. S. A. D. Sheppard, of Boston, was very entertaining and comprehensive, and, among other matters, reference was made to the unusual and unexpected prosperity which the Association had experienced, about one-third of the pharmacists of the State being members. The President spoke of the *trade interests* of the profession as being the chief consideration in such an association, next to which elevation of the status of its members and increased enjoyment of their life were to be considered. Reviewing the work accomplished during the preceding year, reference was made to the efforts towards arresting the tendency to cut prices and the enactment of a pharmacy law.

In connection with the latter topic, the singular fact was mentioned that some of the bitterest and most persistent opponents of pharmaceutical legislation were found among the wholesale dealers. It was suggested that, in virtue of the Association being of a trade character, as compared with the scientific character of the National Association, it would be proper to adopt less stringent rules respecting the nature of articles accepted for exhibition. It was recommended that all members of the Association be allowed to exhibit proprietary articles as well as other goods, and that those who are not members be debarred this privilege. He also recommended that the exhibitions be made more largely representative of *Massachusetts* pharmacy. The members were congratulated upon the approaching abolition of the onerous stamp-tax, and the hope was expressed that the tax on alcohol used in pharmacy might also be abolished. The unjustness of the retail liquor-dealers' license, as applied to pharmacists, was warmly commented on, and in this connection Mr. Sheppard denounced the practice, on the part of some pharmacists, of retailing liquors as beverages. The plan adopted by the Amer. Pharm. Assoc. of paying for its entertainment instead of imposing this burden upon the locality where it meets was earnestly recommended to the Massachusetts Association. Among a number of suggestions calculated to benefit the Association, the President recommended an annual change in its presiding officer. Notwithstanding this advice, however, the Association insisted, later, in re-electing Mr. Sheppard to a third term. Altogether, the address was exceptionally able and interesting, and we regret that want of space prevents its reproduction here.

Mr. W. W. Bartlett, of Boston, reported for the Committee on Trade Interests, and stated that out of 800 answers received in reply to circulars suggesting the extension of the "rebate plan" to the retrail trade, less than 25 were opposed to it.

The Committee on Legislation, through Mr. H. M. Whitney, reported progress.

In the subsequent session of the Association, the "rebate plan" received further attention, Mr. H. F. Canning reading a paper, followed by a number of private communications on the same topic, Mr. F. N. Oxley, of Ashland, and Mr. Calkins, representing the "Craig Kidney Cure Co.," and Mr. Bartlett participating in the discussion, after which the Association formally adopted a rebate plan to apply to retail sales.

A lengthy discussion was had upon the merits of the Pharmacy Act before the Legislature of the State, and the Committee on Legislation was empowered to draft another act, to be presented to the Legislature in case the one now before it failed to pass. It was further voted that the liquor question be kept apart from the Pharmacy Bill.

In a report by the Committee on the Drug Market by Prof. Markoe, reference was made to improvements in the quality of drugs offered; to the manufacture of soda in New York State; to the utilization of hydrochloric acid as a by-product in the manufacture of chloride of lime; to

the presence of arsenic and copper in oil of vitriol made from pyrites.

It was voted to request of the State an appropriation of $25,000 for experimental cultivation of medicinal plants.

The following were among the papers presented:

By B. F. Davenport, of Boston, on "The Adulteration of Food and Drugs."

By Mr. H. A. Estabrook, "Is the New Dispensatory a Safe Bridge for the Pharmacist in this Transition Period?" In this paper, it was advocated that the Pharmacopœia should be regarded as the only authority, and while the Dispensatory may well serve for reference and for general information, the pharmacopœial parts by weight should be adopted in practice at once, and by all pharmacists—that no time should be wasted in regretting the present and extolling the past—a course which is not in accordance with the spirit of the age. In discussing this paper, Prof. Markoe approved the position taken by its author, and corrected a misapprehension which appeared to exist among the members present, that the tincture of opium of the Pharmacopœia has been increased fifty per cent in strength. Prof. Davenport also discussed the latter topic, and the difference in strength was said to be not greater than fifteen and three-quarters per cent.

Mr. H. F. Rockwell, of Fitchburg, read a paper in answer to a query: "Would it be Beneficial to have the Composition of all Proprietary Medicines Plainly Printed on the Outside of the Wrapper?" He declared, from a trade point of view, that this would be inexpedient, as it would remove the secrecy which favors of the use of such medicines by persons whose faith in them would be destroyed if they knew their composition. The number sold would be limited, because many would be shown practically to be duplicates. Moreover, druggists would often be called upon to explain the virtues of slightly different compounds.

A paper by Prof. E. L. Patch, of Boston, related to proprietary medicines and new medicines, in which the acceptance of fancy pharmaceuticals was discouraged.

Mr. Flynn described the decoloration of carbolic acid by the aid of chloride of sodium, four drachms of the latter being capable of decolorizing five pints of the acid.

Prof. Markoe read a paper on "Abstracts," and illustrated it with a number made by him.

Mr. F. A. Davidson, of Boston, presented a paper on "Boroglyceride and its Various Applications."

Mr. W. W. Bartlett, of Boston, read a paper on "Antiseptics."

Two papers were presented by Mr. Colcord; one on "Acid Phosphates," and another in answer to the query: "Are Local Associations Beneficial? How are they Best Organized and Maintained?"

The President, Mr. S. A. D. Sheppard, presented a synopsis of a paper on the same subject.

Mr. Robinson read a paper on "The Indigenous Drugs of Massachusetts."

The Treasurer reported a balance of $192.57 remaining from a total receipt of $1,067.25. The Secretary was allowed an annual salary of $100 and $50 for his services during the preceding year. A recommendation to secure an incorporation of the Association was approved, and the Executive Committee were charged with the duty, as well as that of obtaining a suitable seal. It was voted to appoint a committee, which is to confer with the Massachusetts Medical Association, in relation to standard formulas, and to print for the use of druggists and physicians of the State the formulas for elixirs recommended by the American Pharmaceutical Association, as well as any others that may be deemed advisable.

The following officers and committees were chosen:

President, S. A. D. Sheppard, of Boston; *Vice-Presidents*, C. B. Emerson, of Haverhill; C. S. Henry, of Westboro; L. S. Attwood, of Pittsfield; *Permanent Secretary*, J. W. Colcord, of Lynn; *Local Secretary*, C. C. Brock, of Lowell; *Executive Committee*, W. E. Luscomb, of Salem; C. H. Kimball, of Lowell; W. H. Flynn, of Boston; *Comm. on Trade Interests*, H. Canning, of Boston; C. W. Brown, of Ipswich; T. G. Tweed, of Lowell; E. G. Frothingham, of Haverhill; A. C. Smith, of Boston; *Comm. on Papers and Queries*, W. A. MacCurdy, of Fitchburg; L. S. Davies, of Northampton; F. A. Davidson, of Boston; W. W. Hill, of Woburn; C. P. Alden, of Springfield; *Trustees*, L. M. Green, of Worcester; T. B. Nichols, of Salem; A. S. Waite, of Pittsfield; *Delegates to Amer. Pharm. Assoc.*, F. M. Pease, C. B. Emerson, H. M. Whitney, H. Canning, E. G. Frothingham; *Delegates to the National Retail Druggists' Association* (Washington, D. C., September 10th, proximo), J. W. Colcord, F. H. Butler, H. Canning, C. F. Cole, J. H. Blake, H. A. Estabrook, A. E. Webber, C. R. Lowell, F. M. Pease, L. Davis, C. W. Brown, L. Drown.

The next meeting will be held at Lowell on the first Wednesday of June, 1884.

Among the delegates present were: Dr. A. B. Huested, of Albany, President, T. J. MacMahon and G. Michaeles, of the New York State Pharmaceutical Assoc.; Mr. Sykes, of Hartford (President Connecticut Pharm. Assoc.); and Mr. Goodrich, of Hartford, Conn. Messrs. Huested and Sykes, together with Mr. Tufts and Mr. Geo. A. Seabury were made honorary members. Altogether there was an attendance of between two hundred and three hundred members.

A report of the exhibition will be found among the Trade Notes of this number.

The Louisiana State Pharmaceutical Association, which held its first annual meeting on the 2d of April, was attended by over fifty members. The President, Mr. Jos. T. Thibodeaux, read an interesting address, and was afterward re-elected. The other officers-elect are: A. K. Finlay and F. M. Brooks, *Vice-Presidents;* Ben. Lewis, of New Orleans, *Recording Secretary;* C. L. Keppler, of New Orleans, *Corresponding Secretary;* and J. B. Lavique, of New Orleans, *Treasurer*. The *Executive Committee* are: R. N. Girling, J. Schaeffer, E. G. Wunderlich, J. Johnson, and O. Robin, all of New Orleans. Among the various matters of business transacted was an approval of a formation of a National Association of Retail Druggists, and the delegates to the American Pharmaceutical Association were directed to attend also the convention to be held in September for its organization. The next meeting will be held at Baton Rouge on the third Monday of May next.

Owing to the haste of preparation, the exhibition was not extensive, but the articles shown were highly commended. The exhibitors were I. L. Lyons & Co., drugs, chemicals, and pharmaceutical products; E. J. Hart & Co., drugs, chemicals, alkaloids, sponges, essential oils, etc.; B. Tuma, P. L. Cusachs, C. L. Keppler, and F. Lascar, pharmacopœial preparations of their own manufacture. Mr. Lascar also exhibited articles belonging to an apothecary's general stock. Sharp & Dohme, of Baltimore, showed various coated pills and granules, scale preparations, resinoids, fluid extracts, abstracts, etc. Henry Thayer & Co., of Boston, exhibited a variety of pharmaceutical products. Oldberg & Wall, of St. Louis, showed specimens of their manufactures. The Mallinckrodt Chemical Works, of St. Louis, showed upwards of 500 chemical products. A. Hawkins showed a stock of technical publications. Whitall, Tatum & Co., Young, Ladd & Coffin, Seabury & Johnson, Colgate & Co., H. F. Miller of Baltimore, the Collier Oil and White Lead Co. of St. Louis, and A. Gugenheim & Co. of New Orleans, were also exhibitors.

New Jersey Pharmaceutical Association.—The thirteenth meeting of this Association was convened a Orange on the 16th and 17th of May. In the absence ot the Mayor, Dr. T. R. Chambers welcomed the Association and was followed by the President, J. P. Canby, and Dr. Stephen Wickes. The address of the latter related to the history of Pharmacy. The following delegates were received: From the N. Y. State Association, Messrs. L. E. Nicot and W. P. De Forrest, of Brooklyn; from Connecticut, T. F. Main; from Pennsylvania, Prof. J. E. Remington. Congratulatory letters were received from the Iowa and Georgia associations and a communication

relative to the proposed National Association of retail druggists. The various committees reported and a resolution was adopted in favor of restrictive legislation upon the practice of pharmacy. The election resulted in the choice of the following officers: *President*, R. W. Vandervoort; *Vice-Presidents*, H. P. Thorn, C. G. Am Ende; *Recording Sec.*, A. P. Brown; *Corresp. Sec.*, R. J. Shaw; *Treas.*, W. Rust. Following the session on the first day an excursion was made to Eagle Rock, followed by a dinner.

Maryland State Pharmaceutical Association.—The steps for organizing a State Association were taken at Baltimore, on the 8th of May and following the adoption of a constitution and By-laws. The following officers were elected: *President*, J. J. Thomsen, of Baltimore; *Vice-Presidents*, C. W. Crawford, of Gaithersburg, T. W. Schryer, of Cumberland, H. Duffy, of Hillsboro; *Secretary*, J. W. Geiger, of Baltimore; *Treasurer*, E. W. Russel, of Baltimore; *Executive Comm.*, S. Mansfield, J. B. Doyle, H. A. Elliott. Delegates were elected to the Amer. Pharm. Assoc., to the National Druggists' Assoc., and to the Virginia Pharm. Assoc., and committees were appointed on Legislation, Pharmacy, Trade-Interests, and Business. The Executive Committee were directed to enrol all reputable druggists as original members, who forward their names, together with $3.00, before the 15th of June. The next meeting will be on the second Monday of May next.

Ohio State Pharmaceutical Association.—At the fifth annual meeting of this Association, held in Cleveland, on the 16th of May, the following officers and committee were chosen: *President*, S. S. West, of Cleveland; *Vice-Presidents*, John Weyer, of Cincinnati, E. M. Hattan, of Zanesville; *Secretary*, Lewis C. Hopp, of Cleveland; *Treasurer*, Charles Huston, of Columbus; *Executive Committee*, Dr. James Ayers, of Cincinnati; Charles West, of Toledo; and Thomas Johnson, of Steubenville.

Pennsylvania Pharmaceutical Association.—The Sixth Annual Meeting of this Association will be held in the Hall of the House of Representatives, Harrisburg, commencing at 10 A.M., Tuesday, June 19th, 1883. The session will continue throughout Tuesday and Wednesday. Orders for excursion tickets on the railroads leading to the place of meeting can be obtained from the Secretary, J. A. Miller, Harrisburg, Pa. Shakespeare Hall, a large and well lighted room in the central portion of the city, has been secured for the exhibition. All who desire to place their goods in the exhibition will please notify J. H. Boher, Asst. Secretary, Harrisburg, Pa.

The head-quarters of the Association will be at Bolton's Hotel, where the members and their families will be entertained at reduced rates.

A number of members have expressed a desire to visit Luray Cave, Va., at the close of the meeting, and arrangements have been made for an excursion to that place. The tickets will be good for three days, but the trip can be made in one day. J. A. MILLER, *Secretary*.

St. Louis College of Pharmacy.—The annual meeting of this College was held in the Lecture room on April 30th, 1883, with a numerous attendance.

The retiring president read his annual address, showing the institution to be in a highly prosperous condition.

The election of officers for the ensuing year resulted as follows: *President*, H. E. Hoelke; *Vice-President*, Chas. Gietner; *Recording Sec.*, W. C. Bolm; *Corr. Sec.*, W. H. Crawford; *Treasurer*, S. Boehm; *Board of Trustees*, for two years, Joseph C. Kirkbride, F. W. Sennewald, Geo. Ude.

At the close of the meeting Mr. Sennewald, the retiring president, in a few well chosen words referred to the valuable and untiring services of Mr. Edmund P. Walsh, who has been secretary of the College for sixteen years, and on behalf of the College presented him with an elegant mantel clock and pair of statuettes.

The recepient, who had declined a re-election, feelingly thanked the members present for their kind token of esteem and remembrance.

W. H. CRAWFORD, *Corr. Sec.*

American Lint.—From a note received, with a sample of sheet lint from Messrs. Seabury & Johnson, we learn that these enterprising manufacturers have just succeeded in establishing the first lint works on this continent, having secured the services of the inventor and patentee of linting machinery in England. Among the advantages claimed for this lint by its manufacturers are that it is lighter, fluffier, and more absorbent than any hitherto sold in this country, and that it is capable of being torn in any direction. The sample received by us certainly justifies what has been said of it. It is all that could be desired.

Oiled-Paper for Medical and Surgical Purposes.—Some time since we suggested, in a conversation with Mr. Seabury, the manufacture of an impervious paper which could be used as an impervious covering for surgical dressings, to protect clothing and bedding from lotions and various discharges, which should be strong enough to resist ordinary usage and so cheap that it need not be cleaned, but might be destroyed and replaced by a new sheet. Such impervious paper can be of great service in surgical, obstetrical, and many medical cases, and Messrs. Seabury & Johnson, after a number of trials, have apparently succeeded in producing, and they are now prepared to furnish, to order, rolls or sheets of any size desired. In general appearance, the sample received resembles oiled silk, and might very well take the place of the latter for most purposes.

The Homœopathic Pharmacopœia.—In noticing, in December last, the publication by Boericke & Tafel of "The American Homœopathic Pharmacopœia," we remarked that much of the matter had been copied from the National Dispensatory. It has lately been widely announced that following a short law-suit by the publishers of the latter work for infringement of their copyright, Boericke & Tafel had been obliged to pay damages and to suppress their publication. A recent card published by Boericke & Tafel states that "There was no lawsuit in the case, short or otherwise, for, as soon as our attention was drawn to the fact that some copyrighted articles had been incorporated in the book, we called upon the parties who felt themselves aggrieved, and the matter was amicably adjusted, no damages being claimed, or paid by us. The balance of the edition was immediately withdrawn, and a new edition is now completed, revised by J. T. O'Connor, late Professor of Chemistry at the New York Homœopathic Medical College. We expect to have this ready for delivery by the end of May."

Daniel Hanbury, F.R.S.*

IN MEMORIAM.

"MY late brother, Daniel Hanbury, F.R.S., conducted an elaborate investigation, from a scientific point of view, of the substance known as 'storax;' he published the results of his researches in the years 1857 and 1863. (See *Science Papers*, pages 8 and 129.)

"For many years he had searched in vain for the precious and deliciously fragrant gum that exudes from the true storax-tree (*Styrax officinale*); at last, when walking with him in my garden at La Mortola, on the 9th of December, 1874, he espied, to his extreme delight, a few tears of this precious balmasic resin on a young tree growing in front of my house. In less then four months after this my brother died. I still treasure the storax tears in the small vial in which he placed them, and they seem to lose none of their

* [Professor Flückiger, of Strassburg, has kindly favored us with the accompanying tribute to one whose earnest labors, marvelous intelligence, devotion to science, and spotless life, have endeared him to all who knew him. We are sure that our readers will appreciate the beauty of this memorial.—ED. N. R.]

fragrance. I have many storax-trees in my garden, and in the month of May they are covered with pure white flowers of an agreeable odor; but in vain have I repeatedly searched for more of this resin, which history tells us has been held in great estimation from the time of Dioscorides and Pliny, both of whom describe it; and Professor Krinos, of Athens, states it is still used as incense in the churches and mosques of Asia Minor.

"My friend, the Rev. Hugh Macmillan, to whom I showed the vial and the tree, has sent me the following touching lines which I am sure will be appreciated by all who knew my late brother." THOMAS HANBURY.

PALAZZO ORENGO, LA MORTOLA, January, 1883.

THE STORAX VIAL.

Among the Romans, in the days of old,
It was a touching ritual to place
Beside the ashes of the cherished dead
A bottle full of tears shed by their friends,
And seal them both together in the tomb.
But this small vial, in a brother's home,
Kept ever sacred, seems more touching still,
For it contains the tears by nature shed
For one who with wise head and loving heart
Explored her secret ways, and taught to men
The healing virtue of her trees and flowers,
Her balms and anodynes for human ills;
And yet himself died in the prime of life,
Of wounds for which there is no medicine.
Long had he sought in vain for these same tears
From trees pruned down for fuel every year,
That for such cruel treatment kept their grief
At their heart's core, and gave no outward sign,
Bestowing faggots for the hearth of man,
But for God's altar yielding no incense.
Great, therefore, was his joy to find one day
A single tree—a youthful Niobe,
That from its wounded stem poured freely forth
Its perfumed tears. It seemed as if at last
Nature had brought her alabaster box
And broken it to shed its fragrance rare,
In consecration of his burial!
For in one year he passed away with all
His wealth of learning and experience rich
That blessed the world. It was a fitting place
In which to find such spices for the dead,
His brother's garden at La Mortola—
A paradise more fair than poet's dream,
Growing above an ancient burying place,
Where human dust had long been turned to flowers,
And memories of old-world grief but gave
A deeper interest to the charms around,
Just as the heaven we picture to ourselves
Opens above the graves of those we love.
This little vial smells as sweet to-day,
As when eight years ago its tears were found;
An emblem surely of the faithful hearts
That keep his memory fragrant, and embalm
His virtues in their inmost tenderest shrine,
Like the pure snowy blossom of the tree
That shed these tears was his own spotless life;
And like the plants of myrrh and frankincense,
Whose hidden history he loved to trace,
Which yielded naught but fragrance from their wounds;
So all the sufferings of his closing days,
But showed the secret sweetness of his heart.
The grave where he takes rest is that in which
The Rose of Sharon left its lasting scent;
And death, all the remembrances of him,
Hath made as sweet as woodruff when it fades.
And now we think of him as 'mong the saints,
Who stand white-robed before the Throne, with harps,
And vials full of odors sweet—their alms
And good deeds perfumed by their Saviour's grace.

HUGH MACMILLAN.

Unusual Sales of Drugs.—*The Pharm. Journ.* of April 28th says that during the preceding month *Andrographis paniculata* (called *kariyât* in India) has been offered in London markets for chiretta. The scarcity of hops and the increased demand for bitters of other kinds has led to an increase in both number and quantity of such drugs imported; as many as 906 bags of calumba root were offered at a recent drug-sale. It is noted that at the same sale more than a ton of Calabar beans were offered and likewise 41 bales of scammony root, a drug which has lately been scarce and dear and of which it has been stated that its exportation had been stopped by the Turkish government.

The highest price ever known to have been paid for musk, says the *Chemist and Druggist*, was realized at a recent sale in London, when two tins, of twenty ounces each, were offered, and after spirited bidding, were disposed of to an American firm at 105*s.* per oz. The quality was poor, the pods being small, thin, unshapely and damp; but, owing to restrictions placed by the Chinese government on the killing of the deer, musk is now very scarce. Lots of prime are now held in London at 160*s.*—twice the value of gold.

A large Auction Sale of Quinine.—A large auction sale of quinine was held May 4th at No. 29 Burling Slip by Burdett & Dennis. Of the foreign quinine, 21,000 ounces at $1.32½ an ounce; 5,764 sold at $1.31, and 100 at $1.41. 1,250 ounces of American quinine were sold at $1.60 @ $1.61.

Ghe Che, a fruit-pod or capsule used in Chinese pharmacy and said by Dr. Behr, of San Francisco, to belong probably to the order *Septiminaceæ*, is recommended by Prof. E. W. Runyon, of San Francisco, as a substitute for turmeric as a coloring matter. It can be used in the form of a tincture made with 20 parts of the ground capsule to 100 parts of diluted alcohol.

Dr. Carl Roth & Co., of Berlin (Scharnhorst Strasse, 7), have sent us a catalogue of their manufactures. This firm makes a specialty of furnishing chemicals in any desired state of purity, to laboratories, analysts, for use in analyses, teaching, or as starting points of further scientific investigations. Their catalogue, which is of great general interest, reveals a new feature which has long been a puzzle to many purchasers of this kind of goods. For instance, somebody ordered pure caustic potash, of some special celebrated firm's make. He would receive it eventually, and the label would read perhaps "Kali causticum *purissimum*," which would naturally be interpreted as "the purest. . ." It seems, however, that custom has for a long time past demanded that this superlative "purissimus" should be taken only in a Pickwickian sense, inasmuch as it does not signify "absolutely pure." We have, of course, been aware of this fact all along, but we often meet persons who do not seem to understand it. And there is a reason for the distinction. It is comparatively seldom that substances of *absolute* purity are required; if every analyst had to use only absolutely pure potash (made from metallic potassium), analytical chemistry would be a study inaccessible to any but those who are favored by fortune. There is a degree of purity in which a substance will fully answer all analytical requirements, excepting those where the result is required quantitatively and depends on the absolute purity of the reagent—without going to extremes.

Venezuela.—Anew tariff has come into operation in Venezuela, and is given in full in the report by Colonel Mansfield, Her Majesty's Minister at Caracas, among the reports published by the Foreign Office in February, 1883 (Commercial, No. 3, 1883). The following are a few of the items: Class 2 (to pay 1*d.* per kilog.).—Sulphuric acid, epsom, glauber salts, resin, logwood, and other woods. Class 3 (to pay 2½*d.* per kilog.).—Salad, colza, linseed, and bone oils, stearic and oleic acids, acetic, hydrochloric, and nitric acids, orange-flower water, aërated and mineral waters, turpentine, raw alum, charcoal, salt-

petre, leeches, soda, sulphate of iron and copper. Class 4 (to pay 7½*d.* per kilog.).—Almond, fish, and palm-oils; various seeds and spices, sauces, siphons, and aërated-water machinery. Class 5 (to pay 1*s.* per kilog.).—Perfumed oils and soaps, toilet waters, perfumery and essences of all kinds, castor and cod-liver oils, tartaric acid, arsenic, liquid ammonia, photographic apparatus, tooth and other brushes, drugs and medicines not specially classed, glycerin, sponges. Other duties vary up to 16*s.* per kilog., but do not include any chemical or medicinal products.—*Chem. and Drugg.*

Jewish Pharmacists in Russia.—According to the *Golos*, the Russian Senate resolved, on December 19th, on the petition of certain Jewish apothecaries, to annul the decree of Count Ignatieff, issued in March last, whereby Jewish dispensers were forbidden to be either owners or managers of pharmacies in all parts of the Empire, except in those quarters specially appropriated to Jews.

Pharmacy in France.—The following is taken from the well-known French evening paper, *La France:* The business and the government of pharmaciens are grave questions which must always have a high interest for the public. None of us can boast of being able altogether to do without them. The pharmacien is a power whose authority is explained by his usefulness. We find among the documents of the Chamber an interesting project presented by MM. Delattre and Frebault, two deputies of the Extreme Left. They deplore the privilege and monopoly granted to the pharmaceutical business; but they declare that these are indispensable for the public safety, a reason which at least makes them worthy of consideration. They pass in review all countries, and find that monopoly in pharmacy exists everywhere, and is everywhere better protected than among ourselves. Even the United States, with all their love of liberty, have followed in this respect the usual practice. [This is by no means the case.—Ed. N. R.]

The Revolution of 1789 dared to declare the liberty of pharmacy, but crying abuses soon called for an energetic law, and, for want of time to prepare new legislation, the old royal ordinances were re-established.

There are three modifications which are now particularly needed: 1. The unification of the diploma; 2. Liberty for the pharmacien to sell to the public on his own responsibility any medicament required; and 3. The repression of charlatanry, which disguises itself under the mask of the specialty. It is proposed to abolish the distinction between first-class and second-class pharmaciens, which seems to assume two classes of patients. A man will either be a pharmacien or he will not be one.—*Chem. and Drug.*

The New Italian Pharmacopœia.—According to the Roman journal *Il Bersagliere*, Depretis has completed the manuscript of the Italian Pharmacopœia or, as it is officially termed, "Codice Sanitario," and has laid it before the Italian Parliament. At various times, during the past twenty years, efforts have been made to establish a national pharmacopœia in Italy; at last the work is near its completion.

Mrs. Lydia Pinkham, of patent-medicine fame, who died of paralysis on the 17th of May, at her home in Lynn, Mass., was of Quaker parentage. Her maiden name was Estes, and she was born in Lynn, sixty-four years ago.

Iron Bottles.—A German patent has just been taken out for the manufacture of bottles, etc., from cast iron, containing twelve per cent of silicon, a compound which is said to resist action of the strongest acids.

The Government of Brazil has awarded a gratuity of about $17,000 to Dr. John Baptist Lecerda for his discovery of the antidotal virtue of permanganate of potash in the poisoning of snake-bites.

The Independent Oil and Drug Journal and Paint Review is the comprehensive title of a new weekly published in this city at 182 Front street. Mr. William C. Chase is manager, and the purpose of the journal seems to be to oppose the methods and policy of the "Standard" Oil Company.

Dauphin County (Pa.) Pharmaceutical Association.—As a preliminary to the meeting of the Pennsylvania Pharmaceutical Association in Harrisburg in June, the pharmacists of that county organized a local association on the 11th of May. The following officers and committees were chosen: *President*, D. W. Gross; *Vice-President*, Dr. W. H. Egle; *Secretary*, Dr. J. A. Miller; *Treasurer*, Dr. G. H. Markley; *Executive Committee*, Messrs. Chas. T. George, I. D. Lutz and J. Wilson Hoffa. Messrs. I D. Lutz and Dr. G. H. Markley were elected delegates to the State Pharmaceutical Association. The following committee was appointed to make arrangements for the meeting of the State Pharmaceutical Association: Messrs. C. T. George, E. Z. Gross, J. H. Boher, J. A. Miller, G. H. Markley, A. W. Nunnemacher, and J. W. Rewalt.

Another Quinine Analysis.—Messrs. Keasbey & Mattison, of Philadelphia, have also analyzed quinine pills made by the several Philadelphia firms, and find that they all contain more quinine than their formulas call for. This is *too* bad. It may be of serious importance that when a patient takes what purports to be a two-grain pill he should in reality get $1\frac{31}{100}$ of a grain (*Vide Med. News*). But we have the consolation of knowing that he does not suffer direct harm. When, however, the dose taken is really $2\frac{87}{100}$ of a grain, instead of two grains exactly, and we consider the *terrible?* effects that may follow an overdose of this potent drug, we feel that we should protest against such misdirected liberality on the part of wholesale manufacturers.

PHARM. CALENDAR FOR JUNE.

N. B.—The officers of Societies, Colleges of Pharmacy, Pharm. Associations, etc., will oblige us by forwarding schedules of their meetings, lists of officers, and any changes that may be desirable.

Date.	Society Meetings.
Friday 1st.	American Chem. Soc.—Monthly Meeting in New York.
Mon. 4th.	Erie Co. Pharm. Asso.—Monthly Meeting in Buffalo.
Tues. 5th.	St. Joseph (Missouri) Pharm. Assoc.
Thurs. 7th.	Louisville Coll. Pharm.—Pharm. Meet.
Tues. 12th.	New York State Pharm. Asso.—Annual Meeting at Ithaca.
	Pharm. Asso. of the Province of Quebec.—Annual Meeting at Quebec.
	Kings Co. Pharm. Soc.—Monthly Meeting in Brooklyn.
	West Virginia Pharm. Assoc.—Annual Meet. at Charleston.
	Mississippi Pharm. Assoc.—To organize at Jackson.
	National Coll. Pharm. Meet.
Wed. 13th.	New York Board of Pharmacy.—Monthly Meeting.
	New York Coll. Pharm.—Alumni Meeting.
	Kansas Phar. Asso.—Ann. Meet. at Topeka.
Thurs. 14th.	Newark Pharm. Assoc.—Monthly Meeting.
	Philadelphia Coll. Pharm.—Alumni and Pharm. Meeting.
	Maryland Coll. Pharm.
	New York German Apoth. Soc.
	Lancaster Co. Pharm. Assoc.
Tues. 19th.	Pennsylvania Pharm. Asso.—Annual Meeting at Harrisburg.
	St. Louis College Pharm.—Alumni Meeting.
	Philadelphia Coll. Pharm.—Pharm. Meeting.
	St. Joseph (Missouri) Pharm. Assoc.
Thurs. 21st.	New York Coll. Pharm.—Quarterly Meeting.
Thurs. 28th.	Kings Co. Board of Ph.—Meets in B'klyn.
Mon. 25th.	Philadelphia Coll. Pharm.—Stated Meeting.
Tues. 26th.	Boston Druggists' Assoc.